

NEW HAMPSHIRE

Patient Care Protocols

First Responder
EMT-Basic
EMT-Intermediate
EMT-Paramedic



Approved by the Medical Control Board
January 2011

**New Hampshire Department of Safety
Division of Fire Standards and Training and Emergency Medical Services**

Patient Care Protocols—2011 Edition

COLOR CODES used throughout the book (note: in some cases skill levels are combined)

Symbol	Color	Skill Level	Skills Allowed
none	black text	First Responder (FR)	First Responder skills only
B	green box	EMT-Basic (EMT-B)	EMT-B and FR skills
I	yellow box	EMT-Intermediate (EMT-I)	EMT-I, EMT-B, and FR skills
P	red box	Paramedic (P)	Paramedic, EMT-I, EMT-B, and FR skills

[blue underline](#) text formatted as a hyperlink for document and internet navigation—click to activate

This document is the Patient Care Protocols for New Hampshire Emergency Medical Providers—2011.

These protocols are a “living document” developed and drafted by the Protocol Committee of the New Hampshire Emergency Medical Services Medical Control Board. At the option of the Bureau of EMS and the Medical Control Board, they can be edited and updated at any time. However, they are formally reviewed, edited, and released every two years.

These 2011 NH EMS Patient Care Protocols were reviewed, edited, and unanimously approved of by the NH EMS Medical Control Board.

These are New Hampshire State Patient Care Protocols; they have been written and approved of by the NH EMS Medical Control Board to establish the standard of EMS patient care. Any deviation from these protocols must be approved in writing by the NH EMS Medical Control Board and the NH Bureau of EMS.

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ISBN: 978-0-9826539-1-3



Text editing, design, and production by **TMC Books, LLC**, 731 Tasker Hill Road, Conway, NH 03818, 603-447-5589, www.tmcbooks.com

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<http://www.nh.gov/safety/divisions/fstems/ems/advlifesup/patientcare.html>.

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DEDICATION

Suzanne Prentiss

Chief, New Hampshire Bureau of Emergency Medical Services

2002 – 2010

This new Edition of the New Hampshire Patient Care Protocols is enthusiastically dedicated to our leader for the past decade, Suzanne Prentiss. Sue has earned the EMS Triple Crown by mastering all three of the major professions within EMS: patient care, teaching, and administration.

As a Paramedic clinician, Sue is clinically expert, cool-headed, remarkably kind to patients, and—I found in years of working with her—simply a very good person to have at your shoulder when cases get complicated.

As an EMS educator, particularly before she became Bureau Chief, Sue earned a reputation for superb teaching throughout the North Country. In those days, the greatest need for developing squads was staff at the EMT-I level, so that became Sue's focus. Her students enjoyed very high pass rates and considered her courses to be the Harvard of EMT-I education.

As an EMS executive, Sue topped all her previous contributions. Initially hired as a consultant to organize a planning process for a state EMS system at a crossroads, Sue took some twenty EMS leaders through a process of retreat, re-retreat, and follow-up meetings that ultimately delivered the road map to a decade of the greatest achievement New Hampshire EMS has ever seen.

What Sue brought to state EMS leadership, more than anything else, was her personal reach-out-and-touch-everyone presence. Sue networked not just with EMS providers and officers, and board members and Department of Safety workers at all levels, but also with people from other state offices, people from local government, doctors, nurses and other hospital personnel, business people, legislators, and friends of all sorts—whoever might help the cause of New Hampshire EMS. Anyone who had something to say about EMS could pick up the phone and speak with the Bureau Chief.

Sue, as you move on to the next phase of your career, we wish you great success. We'll miss you. But we will stay in touch. We've got you on speed-dial.



Douglas McVicar, MD

For the Medical Control Board



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PREFACE

All licensed Emergency Medical System (EMS) providers functioning within the New Hampshire EMS system are required to be familiar with the contents of this document pertinent to their level of training.

It is understood that First Responders will function under the EMT-B standing orders up to the training outlined by the United States Department of Transportation (DOT) First Responder curriculum and American Heart Association guidelines for Healthcare Provider CPR training as defined in Saf-C 5901.31 unless authorized by the Department of Safety to provide “enhanced modules” (including ONLY oxygen therapy, obtaining vital signs, providing extremity splinting, and spinal immobilization). It is assumed that the EMT-I standing orders include those listed as EMT-B standing orders, and EMT-P standing orders include those listed as EMT-B and EMT-I standing orders. The sequence of orders in these protocols is not necessarily the order in which they might be executed.

It is also important to note that the standing orders listed in this document are not orders that must be carried out. They are orders that may be carried out at the discretion of the EMT without the need for on-line Medical Control. EMTs at any level of training are encouraged to contact on-line Medical Control in cases where they feel that additional treatment is warranted beyond standing orders, cases where there is uncertainty regarding treatment (e.g., age or size appropriateness for a pediatric patient procedure), or in cases involving medicolegal or jurisdictional issues.

First Responders, EMT-Bs, and EMT-IIs are encouraged to consider timely ALS or Paramedic involvement. All providers are urged to consider the appropriate use of Air Medical Transport and transportation to definitive care when indicated.

The revisions to the protocols for 2011 attempted to take into consideration local preferences and subtle nuances in the application of certain therapies. With this in mind, the protocol review subcommittee of the Medical Control Board (MCB) attempted to provide a variety of options to meet the needs of local medical directors when selecting medications for their catchment area. For example, the seizure protocols read as follows:

IF GENERALIZED SEIZURE ACTIVITY IS PRESENT, CONSIDER

- ▶ Lorazepam 2 – 4mg IV/IM repeated every 5 minutes to a total of 8mg, **OR**
- ▶ Diazepam 5 – 10mg IV (then 2.5mg IV every 5 minutes to a total of 20mg), **OR**
- ▶ Midazolam 2.5 – 6mg IV/IM/IN repeated every 5 minutes or until seizure activity is abolished.

This use of “**OR**” was employed to allow medical directors, MRHs, and their pharmacies to determine collaboratively which benzodiazepine would be practical for use by providers in that catchment area—not to imply that any one service would need to carry all of those agents.

Please note that while medical control can have some variation from facility to facility, on-line Medical Control should not direct providers to practice outside their usual scope of practice, and likewise, providers should not ask to perform procedures or administer medications outside their scope of practice as defined within these protocols.

It is understood that emergency care begins when a patient accesses the system. This means that the tele-communicators at the Bureau of Emergency Communications are integral to effective care by notifying, in a timely manner, the appropriate local dispatcher, as well as by initial instructions offered via Emergency Medical Dispatch (EMD) algorithms. Information will be offered via the EMD priority reference system including dispatch determinant descriptors to local dispatch operators for use by field units as local authorities deem appropriate.

Section 6 of the Protocols is offered in the hope of being helpful in specific clinical circumstances, challenging or dangerous situations, as well as in areas of expanding EMS activity. The topics in this section are intended as “teaching” materials to expand on areas where the MCB believed additional detail would be beneficial.

This 2011 – 2012 edition of the January 2009 edition of the New Hampshire Patient Care Protocols includes multiple revisions prompted by evolving science and our aspiration to be guided by evidence-based medicine grounded in the practical wisdom of field experience. Evaluation of the data collected from the TEMSIS project will help guide the next series of revisions.

ROUTINE PATIENT CARE GUIDELINES

1.0

All levels of provider will complete an initial and focused assessment on every patient and, as a standing order, use necessary and appropriate skills and procedures for which the provider has been trained and certified or approved to perform in order to maintain the patient's airway, breathing, and circulation.

MAKE TRANSPORT DECISIONS EARLY—CONSIDER

- ▶ Which facility is most appropriate?
- ▶ Normal priority or "Load and Go"?
- ▶ Request ALS or paramedic intercept as indicated.
- ▶ Is the patient a candidate for air medical transport?
- ▶ Notify the receiving facility as early as possible.
- ▶ Refer to all appropriate protocol(s) for further treatment options.

INITIAL ASSESSMENT

SCENE SIZE-UP

- ▶ Assess the scene for safety, mechanism of injury, and number of patients.
- ▶ Request additional resources as needed.
- ▶ Use Incident Management/Command System (IM/CS) when possible.

LEVEL OF CONSCIOUSNESS

- ▶ Manually stabilize the patient's cervical spine if trauma is involved or suspected.
- ▶ Assess level of consciousness using the Glasgow Coma Scale.

AIRWAY

- ▶ Assess the patient for a patent airway.
- ▶ Open the airway using a head-tilt/chin-lift, or a jaw thrust if suspicious of cervical spine injury.
- ▶ Suction the airway as needed.
- ▶ Treat foreign body obstruction in accordance with current guidelines.
- ▶ Consider an oropharyngeal or nasopharyngeal airway.
- ▶ Consider advanced airway interventions as appropriate and as trained and credentialed to perform.

BREATHING

- ▶ Assess the patient's breathing, taking note of rate, rhythm, and quality of the respirations.
- ▶ Provide oxygen therapy as appropriate.
- ▶ Assess lung sounds.
- ▶ Look for nasal flaring and/or intercostal and/or suprasternal notch retractions, especially in pediatric patients.
- ▶ Assess the chest for symmetrical chest rise, instability, open pneumothorax, tension pneumothorax, or other signs of trauma.
- ▶ Assist ventilations when the patient exhibits signs of impending respiratory failure or when the patient's ventilation are:
 - ◆ For pediatric: outside the ventilation guidelines.
 - ◆ For adults: at a rate of <10 or >40 per minute.

Routine Patient Care Guidelines continued on next page ➞

ROUTINE PATIENT CARE GUIDELINES continued**1.0***↩ Routine Patient Care Guidelines continued from previous page***CIRCULATION**

- ▶ Assess the patient's pulse, taking note of rate, rhythm, and quality.
- ▶ Apply and use an AED and initiate cardiopulmonary resuscitation in accordance with current guidelines, as trained and credentialed, if indicated.
- ▶ Control active bleeding using direct pressure, pressure bandages, pressure points, tourniquets, or, as a last resort, consider using a hemostatic bandage.
 - ◆ Hemostatic bandages must be of a non-exothermic type that can be washed off with normal saline (0.9% NaCl).
- ▶ Assess the patient's skin color, temperature, and moisture.
- ▶ Provide IV access and fluid resuscitation as appropriate for the patient's condition. An IV for the purposes of these protocols is a saline lock or IV line with 0.9% NaCl (normal saline) and an attempt to obtain a blood sample, unless otherwise specified in an individual protocol. After IV is established, administer fluids to maintain systolic blood pressure >90mmHg for adults. For pediatric patients, administer fluids to maintain normal central capillary refill, pulse rates at age-specific range per [Pediatric Vital Signs by Age](#). Routes of medication administration when written as "IV" can also include "IO."

FOCUSED ASSESSMENT AND TREATMENT

- ▶ Obtain chief complaint, history of present illness, and prior medical history.
- ▶ Complete a physical assessment as appropriate for the patient's presentation.
- ▶ Determine level of pain.
- ▶ Consider cardiac monitoring.
- ▶ Immobilize spine fully, as indicated. (See [Advanced Spinal Assessment Protocol 6.1](#).)
- ▶ Splint and apply cold packs to injured body parts and elevate as appropriate. Assess and document CSMs before and after immobilization.
- ▶ If major pelvis fracture suspected, apply circumferential binding device (commercial device or sheet).
- ▶ Dress and bandage lacerations and abrasions.
- ▶ Cover evisceration with an occlusive dressing and cover to prevent heat loss.
- ▶ Stabilize impaled objects. Do not remove an impaled object unless it interferes with CPR or your ability to maintain the patient's airway.
- ▶ Perform serial exams and monitor the patient en route to the hospital.

OBTAIN VITAL SIGNS

- ▶ Monitor vital signs approximately every 15 minutes (more frequently if the patient is unstable).
- ▶ Include as indicated:
 - ◆ Level of consciousness.
 - ◆ Skin color, temperature, and moisture.
 - ◆ Respiratory rate, pulse rate, blood pressure.
 - ◆ SpO₂.
 - ◆ Capnography.
 - ◆ Fingerstick glucose.
 - ◆ Temperature if fever, environmental hyperthermia, or hypothermia is suspected.

Refer to appropriate protocol(s) for further treatment options.

DNR ORDER

- ▶ If DNR Order is presented, or a DNR identification bracelet or necklace is present, see [DNR Protocol 6.4](#).

Routine Patient Care Guidelines continued on next page ➞

ROUTINE PATIENT CARE GUIDELINES continued**1.0***↩ Routine Patient Care Guidelines continued from previous page***PEDIATRIC DEFINITIONS**

- ▶ Assessment of pediatric patients must take into account the characteristics of a child's anatomy and physiology at each stage of development.
- ▶ For the purposes of these protocols, a "pediatric patient" is defined as a child who fits on the length-based resuscitation tape up to 36kg or 145cm. If longer than the length-based resuscitation tape, he or she is considered an adult. Use of a length-based resuscitation tape is recommended on all pediatric patients if administering medications or performing invasive procedures.
- ▶ While this recommendation does not address some emotional and developmental issues, for most therapies, the use of length-based determination for equipment and medication choices is evidence based. Use of the length-based resuscitation tape is particularly helpful in a situation where there is no confirmed weight or age (e.g., in a disaster setting).

CONSENT

A "minor" is a person who has not yet reached his/her eighteenth birthday.

Note that the legal definition of a "minor" for purposes of consent is unrelated to the medical definitions of "pediatric patient," "child," and "children," as used in these protocols.

Under RSA 153-A:18, EMS personnel may treat minors under the doctrine of implied consent when the minor's parent or other authorized representative is unavailable to provide expressed consent. With the exception of life-threatening emergencies, EMS personnel should attempt to contact the minor's parent or legal guardian to obtain informed consent to treat and transport the child. When a parent or legal guardian is unavailable, another authorized representative (e.g., a school or camp official), who has been expressly authorized by the minor's parent, may consent to health care treatment.

A parent or legal guardian may refuse care for a minor:

- ▶ When a parent or legal guardian is not reasonably available, another adult family member (e.g., grandparent), or other authorized representative having custody of the minor, may refuse care.
- ▶ EMS personnel may accept a telephonic refusal of care, provided that they have explained the consequences of refusing care; telephonic refusal of care should be carefully documented.

Except for the special circumstances listed below, a minor may not refuse care. When a minor attempts to refuse care and/or transport to the hospital, EMS personnel should enlist the assistance of the police, including requesting that the police place the minor in protective custody. Minors should be restrained by EMS personnel only as a last resort.

SPECIAL CIRCUMSTANCES

- ▶ A minor parent who has not yet reached his/her eighteenth birthday may consent to or refuse care on behalf of his or her minor children, provided that the minor parent has the capacity to understand the nature of the treatment and the possible consequences of consenting to or refusing care.
- ▶ Any patient 14 years of age or older does not need parental consent for treatment of sexually transmitted diseases (RSA 141-C:18).
- ▶ Any patient 12 years of age or older may voluntarily submit to a healthcare facility for drug dependency or any problem related to drugs (see RSA 318-B:12-a).
- ▶ An emancipated minor may consent to, or refuse health care. A minor patient bears the burden of establishing, by legal documentation or otherwise, that he/she is emancipated. New Hampshire recognizes emancipation decrees issued by other states.

Routine Patient Care Guidelines continued on next page ➡

ROUTINE PATIENT CARE GUIDELINES continued**1.0***↩ Routine Patient Care Guidelines continued from previous page***PEDIATRIC VITAL SIGNS**

- Interpreting children's vital signs and symptoms as though they were adults may result in an inaccurate assessment and incorrect treatment.

PEDIATRIC VENTILATION GUIDELINES

Respiratory Rate			Ventilation
Age	Too Slow	Too Fast	Breaths/Minute
Newborn	<30	>80	40 – 60
Infant	<20	>70	30 – 40
1 – 6 Years	<16	>40	20 – 30
6 – 12 Years	<12	>30	16 – 20
12 – 16 Years	<10	>24	12 – 16

PEDIATRIC VITAL SIGNS BY AGE

Age	Heart Rate Avg.	Heart Rate Range	Respiratory Range	Systolic BP Avg.	Systolic BP Range
Newborn	140	110 – 180	40 – 60	72	52 – 92
1 month	135	90 – 170	30 – 50	82	60 – 104
1 year	120	80 – 160	20 – 30	94	70 – 118
2 years	110	80 – 130	20 – 30	95	73 – 117
4 years	105	80 – 120	20 – 30	96	65 – 117
6 years	100	75 – 115	18 – 24	97	76 – 116
8 years	90	70 – 110	18 – 22	99	79 – 119
10 years	90	70 – 110	16 – 20	102	82 – 122
12 years	85	60 – 110	16 – 20	106	84 – 128
14 years	80	60 – 105	16 – 20	110	84 – 136

<u>APGAR SCORE</u>		0 Points	1 Point	2 Points
A	Activity Muscle tone	Limp Flaccid	Some flexion of extremities	Active movement of extremities
P	Pulse Heart rate	Absent	Below 100 beats/minute	Above 100 beats/minute
G	Grimace Reflex irritability	No response	Grimace or weak cry	Good cry
A	Appearance Color	Blue or pale	Peripheral discoloration	Completely pink
R	Respiration	Absent	Slow, irregular	Normal, Strong cry

Routine Patient Care Guidelines continued on next page ↩

<i>PEDIATRIC GLASGOW COMA SCALE</i>			
Infants		Children	
M	Moves Spontaneously	6	Obeys Commands
O	Withdraws from Touch	5	Localizes Painful Stimuli
T	Withdraws from Pain	4	Withdraws from Pain
O	Abnormal Flexion	3	Abnormal Flexion
R	Abnormal Extension	2	Abnormal Extension
	No Response	1	No Response
V	Coos and Babbles	5	Oriented
E	Irritable Cry	4	Confused
R	Cries to Pain	3	Inappropriate Words
B	Moans to Pain	2	Incomprehensible
A	No Response	1	No Response
L			
E	Spontaneous	4	Spontaneous
Y	To Speech/Sound	3	To Speech/Sound
E	To Pain	2	To Pain
	No Response	1	No Response

<i>PEDIATRIC TRAUMA TRIAGE CRITERIA</i>			
Component	+2	+1	-1
Weight	>20kg	10 – 20kg	<10kg
Airway	Normal	Oxygen adjunct: mask, cannula, oral or nasal airway	Assisted/Intubated bag valve mask (BVM)/ETT Cricothyrotomy
Level of consciousness	Awake	Altered or history of loss of consciousness	Coma Unresponsive
Circulation	Peripheral pulses good systolic BP >90mmHg	Brachial/Femoral pulses palpable Systolic BP 50 – 90mmHg	Weak or no peripheral pulses Systolic BP <50mmHg
Fracture	None seen or suspected	Single closed fracture	Any open or multiple fractures
Cutaneous	No visible injury	Contusion, abrasion or laceration <7cm, not through fascia	Tissue loss Laceration >7cm Penetrating injury

A child is considered to have incurred serious trauma if:

- ▶ A color triage score of one **black box** or **two gray boxes**.
- ▶ A numerical triage score ≤9.
- ▶ Penetrating wounds to the head, neck, torso, or extremities proximal to the elbow or knee.
- ▶ Two or more long bone fractures, a pelvic fracture, or flail chest.
- ▶ Open or depressed skull fracture.
- ▶ Full thickness (3°) burns, partial thickness (2°) burns >10% BSA, or burns combined with trauma.
- ▶ Paralysis.
- ▶ Amputation proximal to the wrist or ankle.

The New Hampshire Bureau of EMS has taken extreme caution to ensure all information is accurate and in accordance with professional standards in effect at the time of publication. These protocols MAY NOT BE altered or modified.

AIR MEDICAL TRANSPORT

1.1

EMS personnel may request Air Medical Transport (AMT) when operational conditions exist and/or the indicated clinical conditions are present.

The use of AMT is determined by the prehospital provider with the highest medical level providing patient care. It should not be determined by police or bystanders.

AMT does not require approval of on-line Medical Control. However, if in doubt of the appropriateness of a patient for AMT, please contact Medical Control as soon as possible.

OPERATIONAL CONDITIONS

- ▶ When a patient meets defined clinical criteria and the ground transport time to the closest Level I trauma hospital exceeds the ETA of Air Medical Transport, **OR**
- ▶ Patient location, weather, or road conditions preclude the use of ambulance, **OR**
- ▶ Multiple patients are present that will exceed the capabilities of local hospital and agencies.

CLINICAL CONDITIONS

Physiological Criteria:

- ▶ Severe respiratory compromise with respiratory arrest or abnormal respiratory rate.
- ▶ Circulatory insufficiency: sustained systolic blood pressure <90mmHg or other signs of shock.
- ▶ Neurologic compromise: total GCS <9, or motor component <5. If the patient's neurologic status improves above these limits, consider canceling the helicopter and transport to the local hospital.

Anatomical Criteria:

- ▶ Penetrating or severe blunt trauma to the chest or abdomen.
- ▶ Multi-system trauma.
- ▶ Spinal injury with obvious paralysis.
- ▶ Electrocution injuries with loss of consciousness, arrhythmia, or any respiratory abnormality.
- ▶ Multiple long-bone fractures.

ADDITIONAL NOTES

- ▶ Patients with an uncontrolled airway or uncontrollable hemorrhage should be brought to the nearest hospital unless Advanced Life Support (ALS) service (by ground or air) can intercept in a more timely fashion.
- ▶ AMT is **not** indicated for patients in cardiac arrest.
- ▶ AMT is **not** indicated for a contaminated patient until **after** decontamination.
- ▶ AMT may be indicated in a wide range of conditions other than those listed above. In cases where the patient's status is uncertain, consult with Medical Control and proceed as directed.
- ▶ Transfers from ground-ambulance to air-ambulance shall occur at the closest appropriate landing site, including a hospital heliport, an airport, or an unimproved landing site deemed safe per pilot discretion. In cases where a hospital heliport is used strictly as the ground-to-air ambulance transfer point, no transfer of care to the hospital is implied or should be assumed by hospital personnel, unless specifically requested by the providers.

APPARENT LIFE-THREATENING EVENT (ALTE)**1.2**

Involves a frightening episode in a child less than 2 years old, and involves some combination of apnea, color change, limpness, or choking.

Note: Most children who experience an ALTE have a normal physical exam when assessed by responding prehospital personnel; BUT almost 50% will have an underlying condition requiring comprehensive medical care.

BASIC/INTERMEDIATE/PARAMEDIC STANDING ORDERS

- ▶ Obtain a present medical history (assume history provided by family/witness is accurate).
 - ◆ Determine the severity, nature, and duration of the episode.
 - ◆ Was the patient awake or sleeping at the time of the episode?
 - ◆ Include details of the resuscitation, if applicable.
- ▶ Obtain a past history of chronic disease (including seizures), current or recent infection, gastroesophageal reflux, recent trauma, medications, new or inappropriate mixture of formula.
 - ◆ Was child born pre-term or near-term?
- ▶ Perform a comprehensive physical exam including neurological assessment.
- ▶ Keep the child warm and transport to hospital.
- ▶ Contact Medical Resource Hospital for assistance if the parent/guardian refuses medical care and/or transport.

COMMUNICATIONS

1.3

EMTs transporting status I, II, or III patients (see [Patient Status Determination—Protocol 1.5](#)) should advise the receiving hospital, in a timely manner, of patients en route to that Emergency Department (except in Mass Casualty Incidents (MCI) during which routine communications cease).

An EMT may establish contact with a medical control physician via VHF radio on one of the assigned medical frequencies, via telephone direct to each Emergency Department's recorded EMS line, or via telephone patch through the Resource Coordination Center. If a Medical Control physician is needed for consultation, request before giving patient information. It is recommended that all medical communications be recorded.

VHF MEDICAL FREQUENCIES

Initiate call to the appropriate hospital and identify:

- ▶ Destination hospital.
- ▶ Ambulance unit calling.
- ▶ Status of the patient.

TELEPHONE

- ▶ To contact the destination hospital via telephone, use the direct-recorded line to the Emergency Department.
- ▶ Request Medical Control, if needed, give the name of the patient, his or her age, status, and complaint.

Upon establishing voice communication with the destination hospital/medical control physician (if needed), present the following information in a concise and clear manner:

- ▶ Emergency response unit and level of care: Paramedic/Intermediate/Basic, with ETA.
- ▶ Patient's age, sex, and status level.
- ▶ Patient's chief complaint.
- ▶ Patient's present medical condition.
- ▶ Patient's vital signs, including level of consciousness.
- ▶ Patient's physical signs of illness or injury.
- ▶ Patient's electrocardiogram rhythm, if indicated.
- ▶ Patient's relevant medical history.
- ▶ Prehospital diagnostic tests performed/results and treatment rendered/results.

Give a list of medications and allergies only if requested by the destination hospital, or if it is anticipated that a medication order would be given by Medical Control.

COMMUNICATIONS FAILURE**1.4**

In case of a communications failure with Medical Control due to equipment (cell phone, landline, IHERN), malfunction or incident location, the following will apply.

- ▶ EMS personnel may, within the limits of their certifications, perform necessary ALS procedures that under normal circumstances would require a direct physician order.
- ▶ These procedures shall be the minimum necessary to prevent the loss of life or the critical deterioration of a patient's condition.
- ▶ All procedures performed under this order, and the conditions that created the communications failure, need to be thoroughly documented.
- ▶ Attempts must be made to establish contact with Medical Control as soon as possible.

PATIENT STATUS DETERMINATION & TRANSPORT DECISIONS**1.5****STATUS I (SEVERELY ILL OR INJURED PATIENTS WHO REQUIRE IMMEDIATE CARE AND TRANSPORT)**

- ▶ Cardiac arrest.
- ▶ Respiratory arrest.
- ▶ Patient unresponsive or responsive to painful stimuli only.
- ▶ Severe and/or deteriorating respiratory condition.
- ▶ Shock/severe bleeding.
- ▶ Major trauma.
- ▶ Status epilepticus.

Consider transporting patients classified as Status I trauma patients by Air Medical Transport from the scene of an emergency to the closest Level I or Level II Trauma Center, or ALS or paramedic intercept.

Transport to closest appropriate hospital.

STATUS II (PATIENTS WITH ILLNESS OR INJURIES THAT ARE DETERMINED NOT TO BE IMMEDIATELY LIFE-THREATENING)

- ▶ Moderate injury without shock or respiratory compromise.
- ▶ Major fractures without shock.
- ▶ Moderate dyspnea.
- ▶ Acute MI (activation of cath lab if applicable).
- ▶ Stroke (activation of stroke team if available).

Transport to closest appropriate hospital.

Consider appropriate Air Medical Transport and/or ALS or paramedic intercept.

STATUS III (PATIENTS WITH MINOR ILLNESS OR INJURIES THAT DO NOT REQUIRE IMMEDIATE STABILIZATION)

- ▶ Patient alert, vitals signs within normal limits, and with simple uncomplicated injuries or medical complaints.
- ▶ Soft tissue injuries including minor burns.
- ▶ Extremity fractures and dislocations.
- ▶ Maxillofacial injuries without airway compromise.
- ▶ Asthma attack that has responded to bronchodilators.
- ▶ Status: post seizure.
- ▶ Psychological emergencies.

Transport to closest appropriate hospital.

Patient Status Determination & Transport Decisions continued on next page ➞

PATIENT STATUS DETERMINATION & TRANSPORT DECISIONS continued 1.5

↩ Patient Status Determination & Transport Decisions continued from previous page

STATUS IV (STABLE—TRANSPORT FOR DIAGNOSTIC TESTS)

- ▶ Patients being transported to undergo non-emergent diagnostic tests who will not be seen in the emergency department or evaluated by a physician in the emergency department.

Transport to designated hospital.

NOTES OF CLARIFICATION

- ▶ Should a patient deteriorate in status while en route to a hospital, the unit may divert to the nearest hospital after consultation with Medical Control and notification of both the hospital of original destination and the new destination hospital.
- ▶ In cases where the patient's status is uncertain, consult with Medical Control and proceed as directed.
- ▶ Status IV patients should be transported to their previously arranged destination unless their condition deteriorates to Status III, II, or I.
- ▶ The destination hospital is determined by the prehospital provider with the highest medical level providing patient care. It should not be determined by police or bystanders.

ADRENAL INSUFFICIENCY—ADULT/PEDIATRIC**2.0**

Adrenal insufficiency results when the body does not produce the essential life-sustaining hormones cortisol and aldosterone, which are vital to maintaining blood pressure, cardiac contractility, and water and salt balance.

Adrenal insufficiency can be caused by a number of conditions:

- ▶ Congenital or acquired disorders of the adrenal gland.
- ▶ Congenital or acquired disorders of the pituitary gland.
- ▶ Long-term use of steroids (COPD, asthma, rheumatoid arthritis, and transplant patients).

Acute adrenal insufficiency can result in refractory shock or death in patients on a maintenance dose of hydrocortisone (SoluCortef)/prednisone who experience illness or trauma and are not given supplemental doses of dose of hydrocortisone.

A “stress dose” of hydrocortisone should be given to patients with known adrenal insufficiency who have the following illnesses/injuries:

- ▶ Shock (any cause).
- ▶ Fever >100.4°F and ill-appearing.
- ▶ Multi-system trauma, drowning.
- ▶ Environmental hyperthermia or hypothermia.
- ▶ Multiple long-bone fractures.
- ▶ Vomiting/diarrhea accompanied by dehydration.
- ▶ Respiratory distress.
- ▶ 2nd or 3rd degree burns >5% BSA.
- ▶ RSI (Etomidate may precipitate adrenal crisis).

BASIC STANDING ORDERS**B**

- ▶ Routine Patient Care.
- ▶ Identify and treat the underlying condition.
- ▶ Consider paramedic intercept.

INTERMEDIATE STANDING ORDERS**I**

- ▶ Assist the patient/caregiver in giving the patient his or her own medications, as prescribed.

PARAMEDIC STANDING ORDERS**P**

- ▶ Adult: History of adrenal insufficiency: give hydrocortisone 100mg IV, IM, or IO.
- ▶ Pediatric: History of adrenal insufficiency: give Solu-Cortef 2mg/kg, to a maximum of 100mg IV, IM, or IO.

NOTE: Look for medical alert jewelry, emergency injection kit, or doctor’s orders that identify the patient as adrenally insufficient. Ask family members or caregivers for history.

The New Hampshire Bureau of EMS has taken extreme caution to ensure all information is accurate and in accordance with professional standards in effect at the time of publication. These protocols MAY NOT BE altered or modified.

ALLERGIC REACTION/ANAPHYLAXIS—ADULT**2.1**

Anaphylaxis is suspected exposure to an allergen **AND** one or more of the following:

- ▶ Severe respiratory distress.
- ▶ Airway compromise/impending airway compromise (wheezing, swelling of the lips/tongue, throat tightness).
- ▶ Signs of shock (see [Shock Protocol 2.15](#)).

BASIC STANDING ORDERS**B**

- ▶ Routine Patient Care.
- ▶ For signs/symptoms of anaphylaxis, administer adult epinephrine autoinjector (EpiPen) 0.3mg IM in the lateral thigh.
- ▶ Do not delay transport.

INTERMEDIATE STANDING ORDERS**I**

- ▶ For anaphylaxis, administer epinephrine (1:1,000) 0.3mg (0.3ml) IM, lateral thigh preferred.
 - ◆ May repeat epinephrine 0.3mg, every 5 minutes (3 doses total).
- ▶ Consider the administration of a unit dose of albuterol 2.5mg via nebulizer.
 - ◆ May repeat albuterol 2.5mg, every 5 minutes (4 doses total) via nebulizer.

PARAMEDIC STANDING ORDERS**P**

- ▶ Diphenhydramine 25 – 50mg PO/IM/IV.
- ▶ For anaphylaxis refractory to IM epinephrine, consider epinephrine (1:10,000) 0.1mg (1ml) IV repeated every 2 minutes until symptoms resolve.

References: Simons, FER; Gu, X; Simons, KJ. Epinephrine absorption in adults: Intramuscular versus subcutaneous injection. *J Allergy Clin Immunol* 2001; 108:871.

Simons, FER; Roberts, JR; Gu, X; Simons, KJ. Epinephrine absorption in children with a history of anaphylaxis. *J Allergy Clin Immunol* 1998; 101:33.

ALLERGIC REACTION/ANAPHYLAXIS—PEDIATRIC**2.1P**

Anaphylaxis is suspected exposure to an allergen **AND** one or more of the following:

- ▶ Severe respiratory distress.
- ▶ Airway compromise/impending airway compromise (wheezing, swelling of the lips/tongue, throat tightness).
- ▶ Signs of shock (see [Shock Protocol 2.15](#)).

BASIC/INTERMEDIATE STANDING ORDERS**B/I**

- ▶ Routine Patient Care.
- ▶ For signs/symptoms of anaphylaxis, administer pediatric epinephrine autoinjector (EpiPen Jr) 0.15mg IM in the lateral thigh for patients between 10kg and 35kg.
- ▶ Do not delay transport.
- ▶ Consider paramedic intercept.

PARAMEDIC STANDING ORDERS**P**

- ▶ For anaphylaxis: epinephrine (1:1,000) 0.01mg/kg (0.01ml/kg) IM, lateral thigh preferred. (Maximum single dose 0.3mg.)
- ▶ Repeat epinephrine 0.01mg/kg every 5 minutes (3 doses total).
- ▶ Consider administration of a unit dose of albuterol 2.5mg via nebulizer.
 - ◆ May repeat albuterol 2.5mg, every 5 minutes (4 doses total) via nebulizer.
- ▶ For moderate to severe symptoms, diphenhydramine 1mg/kg IV/IM.
- ▶ For mild symptoms in children >1 year of age, consider diphenhydramine 1.25mg/kg PO.
- ▶ For anaphylaxis refractory to IM epinephrine, consider epinephrine (1:10,000) 0.01mg/kg (0.1ml/kg) IV repeated every 2 minutes until symptoms resolve. (Maximum single dose 0.1mg.)

References: Simons, FER; Gu, X; Simons, KJ. Epinephrine absorption in adults: Intramuscular versus subcutaneous injection. J Allergy Clin Immunol 2001; 108:871.

Simons, FER; Roberts, JR; Gu, X; Simons, KJ. Epinephrine absorption in children with a history of anaphylaxis. J Allergy Clin Immunol 1998; 101:33.

ASTHMA/COPD/RAD¹—ADULT**2.2****BASIC STANDING ORDERS****B**

- ▶ Routine Patient Care.
- ▶ Attempt to keep oxygen saturation >90%; increase the oxygen rate with caution and observe for fatigue, decreased mentation, and respiratory failure.
- ▶ Assist the patient with their Metered Dose Inhaler (MDI): 2 puffs.
 - ◆ May repeat every 5 minutes (4 doses total).
 - ◆ Approved MDI containing either albuterol, levalbuterol, or a combination of albuterol/ipratropium.

INTERMEDIATE STANDING ORDERS**I**

- ▶ Consider albuterol 2.5mg and ipratropium 0.5mg **OR**
- ▶ Unit dose DuoNeb via nebulizer.
- ▶ May repeat albuterol 2.5mg via nebulizer every 5 minutes (4 doses total).

PARAMEDIC STANDING ORDERS**P**

- ▶ Consider levalbuterol 1.25mg via nebulizer. May repeat every 20 minutes (4 doses total)
- ▶ For patients who do not respond to treatments, or for impending respiratory failure, consider:
 - ◆ CPAP up to a maximum of 10cmH₂O pressure support.
 - ◆ Methylprednisolone 62.5mg IV.
 - ◆ Epinephrine 1:1,000 – 0.3mg (0.3ml) IM, lateral thigh preferred.
 - ◆ Magnesium sulfate 2 grams in 100ml NS given IV over 10 minutes.

¹RAD = Reactive Airway Disease

Reference: National Heart Lung and Blood Institute. NIH Publication No. 07-4051. Originally printed July 1997, revised June 2002, August 2007.

ASTHMA/RAD¹/CROUP—PEDIATRIC**2.2P****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Attempt to keep oxygen saturation >90%; increase the oxygen rate with caution and observe for fatigue, decreased mentation, and respiratory failure.
- ▶ Assist the patient with their Metered Dose Inhaler (MDI): 2 puffs.
 - ◆ May repeat every 5 minutes (4 doses total).
 - ◆ Approved MDI containing either albuterol, levalbuterol, or a combination of albuterol/ipratropium.
- ▶ For suspected epiglottitis, transport the patient in an upright position and limit your assessment and interventions.
- ▶ For suspected croup, provide humidified oxygen.

PARAMEDIC STANDING ORDERS**P**

- ▶ Consider nebulized:
 - ◆ Albuterol 2.5mg and ipratropium 0.5mg **OR**
 - ◆ Unit dose DuoNeb **OR**
 - ◆ Levalbuterol 0.63mg.
 - ◇ May repeat albuterol 2.5mg every 5 minutes (4 doses total).
 - ◇ May repeat levalbuterol 0.63mg every 20 minutes (4 doses total).
- ▶ For suspected croup with respiratory distress, consider epinephrine via nebulizer.
 - ◆ Patient <1 year of age: 2.5mg (2.5ml of 1:1,000) in 3ml NS.
 - ◆ Patient >1 year of age: 5mg (5ml of 1:1,000) in 3ml NS.
 - ◇ May repeat once after 15 minutes.
- ▶ For patients who do not respond to treatments, or for impending respiratory failure, consider:
 - ◆ Consider methylprednisolone 1mg/kg (maximum dose 62.5mg) for severe exacerbation of patient who does not respond after first nebulizer treatment.
 - ◆ Epinephrine 1:1,000: 0.01mg/kg (0.01ml/kg) IM, lateral thigh preferred. (Maximum single dose: 0.3mg.)
 - ◆ Magnesium sulfate 40mg/kg in 100ml NS given IV over 20 minutes. (Maximum single dose: 2 grams.)

¹RAD = Reactive Airway Disease

References: National Heart Lung and Blood Institute. NIH Publication No. 07-4051. Originally printed July 1997, revised June 2002, August 2007.

Glover ML; Machado C.; Totapally BR. Magnesium sulfate administered via continuous intravenous infusion in pediatric patients with refractory wheezing. J Crit Care 2002;17:255-258.

Chippis B; Murphy K. Assessment and Treatment of Acute Asthma in Children. J Pediatr, 2005;147:288-294.

BEHAVIORAL EMERGENCIES INCLUDING SUICIDE ATTEMPTS & THREATS—ADULT & PEDIATRIC 2.3

SCENE SAFETY

- ▶ Consider waiting for law enforcement to secure the scene.
- ▶ Avoid the use of lights and sirens on approach.
- ▶ Secure the area and move bystanders away.
- ▶ Approach in teams of two, with one rescuer focusing on the patient and the other on scene control.
- ▶ Approach in a calm, supportive manner.
- ▶ Offer reassurance. Let them know you can help or get help for him/her.
- ▶ Respect the dignity and privacy of the individual.
- ▶ Keep distance from the patient if the rescuer's presence increases the patient's agitation.
- ▶ Avoid caring for an agitated patient in a room with only a single entrance/exit, if possible.
- ▶ Position yourself to allow easy egress for yourself or the patient.
- ▶ Never leave a rescuer alone with a potentially violent or dangerous patient!
- ▶ Do not leave an at-risk or potentially dangerous patient unattended or unsupervised, even briefly.
- ▶ Talk in a conversational tone, reflect back to the patient what he/she says (ensures accuracy).
- ▶ Respond to hallucinations or delusions by talking about the patient's feelings rather than what he/she is describing: "It sounds as if you are really frightened that people are out to get you."
- ▶ Give firm, clear directions; one person should talk to the patient.
- ▶ Explain clearly what will happen next and allow patient choice when possible.

Implement **SAFER** model

- S** Stabilize the situation by lowering stimuli, including voice.
- A** Assess and acknowledge the crisis by validating the patient's feelings and not minimizing them.
- F** Facilitate the identification and activation of resources (clergy, family, friends, or police).
- E** Encourage the patient to use resources and take actions in his/her best interest.
- R** Recovery or referral—leave the patient in the care of a responsible person or professional **OR** transport to an appropriate medical facility. Do not leave the patient alone when EMS clears the scene.

BASIC/INTERMEDIATE STANDING ORDERS

- B/I

- ▶ Routine Patient Care.
 - ▶ Observe and record the patient's behavior.
 - ▶ Determine if the patient is under the care of mental health professionals and record contact information.
 - ▶ Assess for risk to self and others.
 - ◆ Ask directly, **"Are you thinking about killing yourself, or killing someone else, or hurting yourself, or hurting others?"**
 - ◇ If yes, ask directly, "Have you thought about how you would do this?"
 - ◆ If yes, find out if he/she has the means available, or is attempting to procure the means to carry out his/her thoughts. Ask directly, "Do you have or know where you can get guns, pills, rope, a car, etc.?"
 - ◆ If yes, **"Have you planned out where and when you would do it?"**

Behavioral Emergencies Including Suicide Attempts & Threats continued on next page ➞

BEHAVIORAL EMERGENCIES INCLUDING SUICIDE ATTEMPTS & THREATS—ADULT & PEDIATRIC *continued*

2.3

↪ Behavioral Emergencies Including Suicide Attempts & Threats continued from previous page

BASIC/INTERMEDIATE STANDING ORDERS continued

B/I

- ◆ If yes, **“Does anyone else know about your plans?”** (Teens and young adults sometimes engage in a suicide pact with another person. Getting this information, who the other person is, and the names and numbers for how he/she can be contacted, can be critical.)
- ▶ If the patient is a risk for suicide or violence toward others:
 - ◆ Transport to hospital for evaluation by mental health professional.
 - ◆ If the patient refuses transport, contact law enforcement for assistance.
- ▶ If the patient does not appear to be an immediate threat to self or others and refuses transport:
 - ◆ Encourage the patient to seek mental health evaluation.
 - ◆ Provide the patient with the mental health center emergency services number 1-800-273-TALK.
 - ◆ Avoid leaving the patient alone. Assist in contacting responsible family/friend.
- ▶ Encourage family to remove all firearms or other lethal means from the home, as availability in the home dramatically increases the chances that an individual will act.
- ▶ Restrain **if necessary** and **only** for the safety of the patient and crew.
 - ◆ Use only soft restraints and monitor distal circulation.
 - ◆ Consider paramedic intercept.
 - ◆ Restraint notes:
 - ◇ Use the minimum force necessary. **NEVER** restrain for punitive reasons.
 - ◇ Monitor airway frequently.
 - ◇ Do not restrain the patient:
 - ◆ Face down.
 - ◆ With hands behind back.
 - ◆ With both hands over the head to the top bar of stretcher (one hand is acceptable).
 - ◆ With straps over lower thorax or upper abdomen.
 - ◆ Using a “sandwich” restraint with scoop or backboard.

PARAMEDIC STANDING ORDERS—ADULT

P

Consider:

- ▶ Haloperidol 5mg IM; may repeat once in 5 minutes, **OR**
- ▶ Lorazepam 1mg IV or 2mg IM; may repeat once in 5 minutes, **OR**
- ▶ Midazolam 2.5mg IV/IM/IN; may repeat once in 5 minutes, **OR**
- ▶ Diazepam 2mg IV or 5mg IM; may repeat once in 5 minutes.

Antidotes:

- ▶ Flumazenil 0.2mg IV over 30 seconds.
 - ◆ Indication: adverse affects of benzodiazepines administered by EMS personnel.
- ▶ Diphenhydramine 25 – 50mg IV or 50mg IM.
 - ◆ Indication: for acute dystonic reaction to haloperidol.

DIABETIC (HYPOGLYCEMIA/HYPERGLYCEMIA) EMERGENCIES—ADULT 2.4

DEFINITIONS: HYPOglycemic emergency: glucose <80mg/dl with associated altered mental status.

HYPERglycemic emergency: glucose >300mg/dl with associated altered mental status.

BASIC STANDING ORDERS

B

- ▶ Routine Patient Care.
- ▶ Obtain glucose reading via glucometer.
- ▶ For hypoglycemic emergency: **Patient must be alert enough to swallow and protect airway.**
 - ◆ Oral glucose: administer 1 tube of commercially prepared glucose gel or equivalent.
- ▶ For hyperglycemic emergency: **Patient must be alert enough to swallow and protect airway.**
 - ◆ Oral fluids: if the patient is not vomiting, provide oral hydration with water.

INTERMEDIATE/PARAMEDIC STANDING ORDERS

I/P

- ▶ For hypoglycemic emergency:
 - ◆ Administer dextrose (D50) 25 grams IV. Recheck glucose 5 minutes after administration of dextrose (D50).
 - ◇ IO D50 should be reserved for hypoglycemic patients with active seizure.
 - ◇ May repeat dextrose (D50) 25 grams IV if glucose level is <80mg/dl with continued altered mental status.
 - ◆ If unable to establish IV access, administer glucagon 1mg IM or SQ. (Intermediates: requires completion of a NH Bureau of EMS approved training module before using this protocol).
 - ◇ Recheck glucose 15 minutes after administration of glucagon.
 - ◇ May repeat glucagon 1mg IM or SQ if glucose level is <80mg/dl with continued altered mental status.
- ▶ For hyperglycemic emergency:
 - ◆ Administer 500ml bolus of 0.9% NaCl (normal saline), then 250ml/hr.

DIABETIC (HYPOGLYCEMIA/HYPERGLYCEMIA)

EMERGENCIES—PEDIATRIC

2.4P

DEFINITIONS: HYPOglycemic emergency: glucose <80mg/dl with associated altered mental status.
HYPERglycemic emergency: glucose >300mg/dl with associated altered mental status.

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- ▶ Routine Patient Care.
- ▶ Obtain glucose reading via glucometer.
- ▶ For hypoglycemic emergency: **Patient must be alert enough to swallow and protect airway.**
 - ◆ Oral glucose: administer 1 tube of commercially prepared glucose gel or equivalent.
- ▶ For hyperglycemic emergency: **Patient must be alert enough to swallow and protect airway.**
 - ◆ Oral fluids: if the patient is not vomiting, provide oral hydration with water.

PARAMEDIC STANDING ORDERS

P

- ▶ For hypoglycemic emergency:
 - ◆ Administer dextrose IV per length-based resuscitation tape. Recheck glucose 5 minutes after administration of dextrose.
 - ◇ IO D50 should be reserved for hypoglycemic patients with active seizure.
 - ◇ Repeat IV dextrose dose if glucose level is <60mg/dl with continued altered mental status.
 - ◆ If unable to obtain IV access:
 - ◇ Administer glucagon 0.5mg IM for infant up to 20 kg.
 - ◇ Administer glucagon 1mg IM for infant >20 kg.
 - ◆ Additional doses of glucagon are likely to be ineffective due to inadequate glycogen stores.
- ◆ For hyperglycemic emergency:
 - ◇ Administer 10ml/kg bolus of 0.9% NaCl (normal saline).
 - ◇ May repeat fluid bolus two times for total of 3 fluid boluses.

FEVER (>101.5°F/38.5°C)—ADULT**2.5**

This protocol is **NOT** intended for patients suffering from environmental hyperthermia (see [Hyperthermia Protocol 2.6](#)).

BASIC/INTERMEDIATE STANDING ORDERS**B/I**

- ▶ Routine Patient Care.
- ▶ Obtain temperature.
- ▶ Passive cooling; remove excessive clothing/bundling.
- ▶ Avoid inducing shivering.

PARAMEDIC STANDING ORDERS**P**

- ▶ For temperature >101.5°F (38.5°C)
 - ◆ If no acetaminophen has been taken in last 4 hours:
 - ◇ Consider administering acetaminophen 500 – 1,000mg PO.
 - ◆ If acetaminophen has been taken within last 4 hours and temperature is still >101.5°F (38.5°C):
 - ◇ Consider administering ibuprofen 400 – 800mg PO.
 - ◆ If ibuprofen has been taken within the last 6 hours:
 - ◇ Consider acetaminophen 500 – 1,000mg PO.

FEVER (>101.5°F/38.5°C)—PEDIATRIC**2.5P**

This protocol is **NOT** intended for patients suffering from environmental hyperthermia (see [Hyperthermia Protocol 2.6](#)).

BASIC/INTERMEDIATE STANDING ORDERS**B/I**

- ▶ Routine Patient Care.
- ▶ Obtain temperature—rectal temperature preferred as appropriate.
- ▶ Passive cooling; remove excessive clothing/bundling.
- ▶ Avoid inducing shivering.

PARAMEDIC STANDING ORDERS**P**

- ▶ For temperatures >101.5°F (38.5°C):
 - ◆ If acetaminophen was last taken more than 4 hours ago:
 - ◇ Consider administering acetaminophen 15mg/kg PO/PR.
 - ◆ If acetaminophen has been taken within last 4 hours, but was <15mg/kg:
 - ◇ Consider acetaminophen at a dose to bring total taken in last 4 hours to 15mg/kg.
 - ◆ If maximum dose of acetaminophen has been taken within the last 4 hours:
 - ◇ Consider ibuprofen 10mg/kg PO (contraindicated in infants under 6 months of age).
 - ◆ If ibuprofen has been taken within last 6 hours, but was <10mg/kg:
 - ◇ Consider ibuprofen at a dose to bring total taken within the last 6 hours to 10mg/kg (contraindicated in infants under 6 months of age).

HYPERTHERMIA (ENVIRONMENTAL)—ADULT & PEDIATRIC**2.6**

Mental status changes in the heat-challenged victim signal the onset of potentially severe heat illness and heat stroke. Mortality and morbidity are directly related to the length of time the victim is subject to the heat stress. Consider pharmacological causes as well.

BASIC STANDING ORDERS**B**

- ▶ Routine Patient Care.
- ▶ Move victim to a cool area and shield from the sun or any external heat source.
- ▶ Remove as much clothing as is practical and loosen any restrictive garments remaining.
- ▶ If alert and oriented, give small sips of cool liquids.
- ▶ Monitor and record vital signs and level of consciousness.
- ▶ If temperature is >104°F (40°C) or if altered mental status is present, begin active cooling by:
 - ◆ Continually misting the exposed skin with tepid water while fanning the victim (most effective).
 - ◆ Truncal ice packs may be used, but are less effective than evaporation.
 - ◆ Discontinue active cooling if shivering occurs and notify Medical Control.

INTERMEDIATE STANDING ORDERS—ADULT**I**

- ▶ Consider 500ml 0.9% NaCl (normal saline) IV fluid bolus for dehydration even if vital signs are normal.

PARAMEDIC STANDING ORDERS—ADULT**P**

- ▶ If uncontrolled shivering occurs during cooling:
 - ◆ Lorazepam 0.5 – 1mg IV/IM **OR**
 - ◆ Diazepam 2mg IV or 5mg IM.
- Antidote:** Flumazenil 0.2mg IV over 30 seconds to reverse the adverse effects of benzodiazepines that were administered by EMS personnel.
- ▶ If seizure activity is present, follow [Seizures Protocol 2.14](#).

PARAMEDIC STANDING ORDERS—PEDIATRIC

- ▶ Consider 10 – 20ml/kg 0.9% NaCl (normal saline) IV fluid bolus for dehydration even if vital signs are normal.

HYPOTHERMIA (ENVIRONMENTAL)—ADULT & PEDIATRIC**2.7****BASIC STANDING ORDERS****B**

- ▶ Routine Patient Care.
- ▶ Avoid rough movement and excess activity.
- ▶ Prevent further heat loss:
 - ◆ Insulate from the ground and shield from wind/water.
 - ◆ Move to a warm environment.
 - ◆ Gently remove any wet clothing.
 - ◆ Cover with warm blankets. Cover the head and neck.
- ▶ Obtain temperature—rectal temperature preferred as appropriate.
- ▶ Maintain horizontal position.
- ▶ Truncal warm packs.
- ▶ Consider covering the patient's mouth and nose with a surgical mask to prevent respiratory heat loss.
- ▶ A minimum of 45 – 60 second assessment of respiration and pulse is necessary to confirm respiratory arrest or pulseless cardiac arrest.
- ▶ If pulse and breathing present, continue rewarming techniques.
- ▶ If pulse and breathing absent:
 - ◆ Start CPR with rate of chest compressions and ventilations at 1/2 to 1/3 the usual rate. Do not initiate compressions if any palpable pulse is present.
 - ◆ Apply cardiac monitor/AED if available; shock once. If core temperature is >30°C (86°F) may repeat shock per AED after two minutes of CPR.
 - ◆ If unsuccessful, perform CPR.

INTERMEDIATE (ADULT ONLY)/PARAMEDIC (ADULT & PEDIATRIC) STANDING ORDERS**I/P**

- ▶ If core temperature is <30°C (86°F):
 - ◆ Continue CPR.
 - ◆ Withhold IV medications.
 - ◆ Attempt defibrillation once. (Use 360 joules for monophasic and 120 – 200 joules for biphasic defibrillators.)
- ▶ If core temperature is >30°C (86°F):
 - ◆ Continue CPR.
 - ◆ Give IV medications based on dysrhythmia (but at longer intervals).
 - ◆ Defibrillation as indicated after core temperature reaches 30°C (86°F).

SEVERITY LEVELS OF HYPOTHERMIA AND ASSOCIATED SYMPTOMS

MILD	97°F – 95°F (36.1°C – 35°C)	cold sensation, shivering, unable to perform complex tasks with hands
MODERATE	95°F – 93°F (35°C – 33.9°C)	intense shivering, clumsy and uncoordinated, mild confusion, slow and labored movements
	93°F – 90°F (33.9°C – 32.2°C)	violent shivering, difficulty with speech, sluggish thinking, mild amnesia, may appear drunk
SEVERE	90°F – 86°F (32.2°C – 30°C)	shivering stops, unable to walk, incoherent, irrational
	<86°F (30°C)	progressive stupor to unconsciousness, loss of awareness
	<82°F (27.8°C)	unconscious, respiration and heartbeat erratic, pulse not palpable, pulmonary edema, cardiac and respiratory arrest, death

NAUSEA/VOMITING—ADULT & PEDIATRIC**2.8****BASIC STANDING ORDERS****B**

- ▶ Routine Patient Care.

INTERMEDIATE STANDING ORDERS—ADULT**I**

- ▶ Consider 500ml 0.9% NaCl (normal saline) IV fluid bolus for dehydration even if vital signs are normal.

PARAMEDIC STANDING ORDERS—ADULT**P**

- ▶ Prochlorperazine 5 – 10mg IV, **OR** 5mg IM, **OR**
 - ▶ Ondansetron 4mg IV/IM, **OR**
 - ▶ Metoclopramide 5mg IV/IM, **OR**
 - ◆ May repeat any of the above medications once after 10 minutes if nausea/vomiting persists.
 - ▶ Granisetron 0.1 – 1mg IV over 5 minutes (one-time dose).
 - ▶ Dolasetron 12.5mg IV (one-time dose).
- Antidote:** For dystonic reactions caused by EMS administration of prochlorperazine or metoclopramide:
- ◆ Consider administering diphenhydramine 25 – 50mg IV/IM.

PARAMEDIC STANDING ORDERS—PEDIATRIC

- ▶ Consider 10 – 20ml/kg 0.9% NaCl (normal saline) IV fluid bolus for dehydration even if vital signs are normal.
- ▶ Ondansetron 0.1mg/kg IV (maximum single dose 4mg), **OR**
- ▶ Granisetron 10 micrograms/kg IV over 5 minutes.

NEWBORN CARE**2.9P****BASIC/INTERMEDIATE/PARAMEDIC STANDING ORDERS**

- B/I/P**
- ▶ Routine Patient Care—dry, warm, position, stimulate.
 - ▶ Assess airway by positioning and clearing secretions (only if needed):
 - ◆ Place the newborn on his/her back or side with his/her head in a neutral or slightly extended position.
 - ◆ Routine suction is discouraged even in the presence of meconium-stained amniotic fluid. Suction only if the patient exhibits respiratory depression and/or obstruction. See [Newborn Resuscitation Protocol 2.10P](#).
 - ▶ Clamp and cut the umbilical cord:
 - ◆ After initial assessment and after the cord stops pulsating.
 - ◆ Leave a minimum of 6 inches of cord.
 - ▶ Prevent heat loss by rapidly drying and warming:
 - ◆ Remove wet linen, wrap newborn in blankets and cover his/her head.
 - ◆ Consider placing newborn skin-to-skin on the mother's chest or abdomen.
 - ▶ Assess breathing by providing tactile stimulation:
 - ◆ Flick soles of feet and/or rub the newborn's back.
 - ◆ If newborn is apneic or has gasping respirations, nasal flaring, or grunting, proceed to [Newborn Resuscitation Protocol 2.10P](#).
 - ▶ Assess circulation, heart rate, and skin color:
 - ◆ Evaluate heart rate by one of several methods:
 - ◇ Auscultate apical beat with a stethoscope.
 - ◇ Palpate the pulse by lightly grasping the base of the umbilical cord.
 - ◆ If the pulse is <100 bpm and not increasing, proceed to [Newborn Resuscitation Protocol 2.10P](#).
 - ◆ Assess skin color; examine central structures and mucus membranes.
 - ▶ Record APGAR score at 1 minute and 5 minutes (see APGAR chart).
 - ◆ If APGAR is <7, proceed to [Newborn Resuscitation Protocol 2.10P](#).
 - ◆ Record vital signs (see [Pediatric Vital Signs chart](#)).

Reference: AHA Circulation 2010;122;S909-919

NEWBORN RESUSCITATION**2.10P**

This protocol assumes routine care of the newborn has been performed and it reveals a newborn in need of resuscitation (heart rate <100 or respiratory distress).

BASIC/INTERMEDIATE STANDING ORDERS**B/I**

- ▶ Routine Patient Care—initial steps identified in [Newborn Care Protocol 2.9P](#).
- ▶ For premature infants, consider additional warming techniques, including wrapping the baby in food- or medical-grade plastic wrap.
- ▶ If the mouth or nose is obstructed or heavy secretions are present, suction using a bulb syringe or mechanical suction using the lowest pressure that effectively removes the secretions, not to exceed 120mmHg.
- ▶ If ventilations are inadequate, or if the chest fails to rise, initiate positive pressure (bag valve mask) ventilations at 40 – 60 breaths per minute.
 - ◆ **Note:** resuscitation should be initiated with room air.
 - ◆ Inflation pressures should be individualized to achieve an increase in heart rate or movement of the chest with each breath. Be aware that BVM pop-off valves may deliver inconsistent results.
- ▶ After 30 seconds of ventilations, assess heart rate:
 - ◆ Auscultate apical beat with a stethoscope or palpate the pulse by lightly grasping the base of the umbilical cord.
- ▶ For heart rate <60:
 - ◆ Initiate CPR at a 3:1 ratio (for a range of 90 compression/minute and 30 ventilations/minute). Minimize interruptions. Reassess every 60 seconds; if not improving, continue CPR with 100% oxygen until recovery of a normal heart rate, then resume room air.
 - ◆ Initiate transport as soon as possible with or without ALS.

PARAMEDIC STANDING ORDERS**P**

- ▶ If bag valve mask ventilation is inadequate or chest compressions are indicated, consider intubating the baby using a 3.0mm or 4.0mm endotracheal tube. (For an infant born before 28 weeks gestation, a 2.5mm endotracheal tube should be used.)
 - ◆ Heart rate is the best indicator of whether the tube is properly placed in the trachea; end-tidal ETCO₂ is also effective for confirming tracheal placement.
- ▶ Establish IV, IO, or umbilical vein access. Obtain blood sample if possible.
 - ◆ If hypovolemia is suspected, administer 10ml/kg bolus over 5 – 10 minutes.
 - ◆ If heart rate fails to improve with chest compressions, administer epinephrine (1:10,000) 0.01 – 0.03mg/kg IV/IO/UVC (0.1 – 0.3ml/kg).
 - ◆ IV is preferred route for epinephrine—if there is a delay in establishing IV access, may administer via ETT 0.05 to 0.1 mg/kg (1:10,000).
 - ◆ If glucose level is <60mg/dl:
 - ◇ Administer dextrose per length-based resuscitation tape.

ALS Notes: Flush all meds with 0.5 to 1.0ml 0.9% NaCl (normal saline) or follow all ETT meds with positive-pressure ventilation.

AHA Circulation 2010;122;S909-919.

OBSTETRICAL EMERGENCIES**2.11****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ OB assessment:
 - ◆ Length of pregnancy, number of pregnancies, number of viable births, number of non-viable births, last menstrual period, due date, prenatal care, number of expected babies, drug use.
 - ◆ Signs of imminent delivery: membrane rupture or bloody show, contractions, urge to move bowels, urge to push.
 - ◆ Signs of preeclampsia: hypertension, edema, epigastric pain.
- ▶ Expose as necessary to assess for bleeding/discharge, crowning, prolapsed cord, breech, limb presentation.
- ▶ Do not digitally examine or insert anything into the vagina.
 - ◆ Exceptions: fingers may be inserted to manage baby's airway in breech presentation or to treat prolapsed or nuchal cord.
- ▶ Place mother in left-lateral recumbent position except as noted.
- ▶ Prolapsed cord: knee-chest position or Trendelenberg position; immediately and continuously support infant head or body with a hand to permit blood flow through cord. Transport immediately to closest hospital.
- ▶ Notify the hospital and Medical Control if:
 - ◆ Postpartum hemorrhage.
 - ◆ Breech presentation.
 - ◆ Limb presentation.
 - ◆ Nuchal cord.
 - ◆ Prolapsed cord.

PARAMEDIC STANDING ORDERS**P**

- ▶ Active seizures—see [Seizures Protocol 2.14](#).
- ▶ Postpartum hemorrhage:
 - ◆ Consider oxytocin 20 units in 1,000ml 0.9% NaCl (normal saline) at a rate of 200 – 600ml/hr.
- ▶ Tocolysis for preterm labor: 0.9% NaCl (normal saline) IV bolus 20ml/kg as needed.
 - ◆ Contraindications: gestation beyond 37 weeks, preeclampsia, vaginal bleeding.

PAIN MANAGEMENT—ADULT**2.12****BASIC/STANDING ORDERS****B**

- ▶ Routine Patient Care.
- ▶ Place the patient in a position of comfort, if possible.
- ▶ Give reassurance, psychological support, and distraction.
- ▶ Use ample padding for long and short spinal immobilization devices.
- ▶ Use ample padding when splinting possible fractures, dislocations, sprains, and strains. Elevate injured extremities, if possible. Consider the application of a cold pack for 30 minutes.
- ▶ Have the patient rate his/her pain from 0 to 10, or on another appropriate pain scale.
 - ◆ Avoid coaching the patient; simply ask him/her to rate his/her pain on a scale from 0 – 10, where 0 is no pain at all and 10 is the worst pain the patient has ever experienced.
- ▶ Reassess the patient's pain level and vital signs every 5 minutes.

INTERMEDIATE/STANDING ORDERS**I**

- ▶ Nitronox*: The patient must be able to self-administer this medication. Nitronox is contraindicated in abdominal pain, pneumothorax, head-injured, or diving-emergency patients.
 - ◆ A NH Bureau of EMS approved training module must be completed before using this protocol.
 - ◆ **Note:** Nitronox may only be used if the patient has not received an opiate.

* A scavenger should be used and the ventilation fan should be running while administering Nitronox.

PARAMEDIC STANDING ORDERS**P**

Unless the patient has altered mental status or multi-systems trauma, the paramedic may consider one of the following for pain control:

- ▶ Ketorolac** 15 – 30mg IV or 30 – 60mg IM (no repeat).
 - ◆ Consider as first line in renal colic. Avoid Ketorolac in patients with NSAID allergy, aspirin-sensitive asthma, or known peptic ulcer disease.
- ▶ One of the following opiates:
 - ◆ Morphine** 1 – 5mg IV/IM every 10 minutes to a total of 15mg titrated to pain relief and if systolic BP is >100, **OR**
 - ◆ Fentanyl** 25 – 100 micrograms slow IV, 50 – 100 micrograms IM, every 5 minutes to a total of 300 micrograms IV/IM, or 1.4 micrograms/kg IN.

Antidote: For hypoventilation from opiate administration by EMS personnel, administer naloxone 0.4mg SQ/IV/IM/IN/ETT as needed.

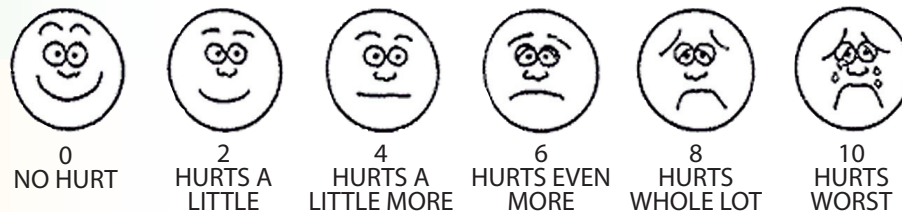
- ▶ For nausea: Refer to [Nausea Protocol 2.8](#).

Contact Medical Control for guidance with all patients with altered mental status or multi-systems trauma, or for requests to provide additional doses of a medication.

**Use cautiously in frail or debilitated patients; lower doses should be considered.

PAIN MANAGEMENT—PEDIATRIC**2.12P****BASIC/INTERMEDIATE STANDING ORDERS**

- ▶ Routine Patient Care.
- ▶ Place the patient in a position of comfort, if possible.
- ▶ Give reassurance, psychological support, and distraction.
- ▶ Use ample padding for long and short spinal immobilization devices.
- ▶ Use ample padding when splinting possible fractures, dislocations, sprains and strains. Elevate injured extremities if possible. Consider the application of a cold pack for 30 minutes.
- ▶ Have the patient rate his/her pain from 0 – 10, or on another appropriate pediatric pain scale.
 - ◆ Avoid coaching the patient; simply ask him/her to rate his/her pain on a scale from 0 – 10, where 0 is no pain at all and 10 is the worst pain ever experienced by the patient.
 - ◆ Wong-Baker “faces” scale: The faces correspond to numeric values from 0 – 10. The scale can be documented with the numeric value or the textual pain description.
- ▶ Reassess the patient’s pain level and vital signs every 5 minutes.

B/I

- ▶ Consider sucrose for infants from birth to 12 months for minor procedural pain, or for additional pain control when used with other pharmacologic agents.
 - ◆ Administer 0.1ml of a 24% solution 2 minutes prior to painful procedure:
 - ◇ Apply directly onto the infant’s anterior tongue and immediately provide the infant with a pacifier for non-nutritive sucking, **OR**
 - ◇ Dip the tip of a pacifier into 24% sucrose solution and provide to the infant, **OR**
 - ◇ Provide the infant with a commercially packaged sucrose-dipped pacifier.

A maximum of 3 doses may be given in one hour.

NOTE: Do not administer sucrose solution by bottle or through a nipple. Sucrose solution must be absorbed via the mucous membranes and not swallowed.

PARAMEDIC STANDING ORDERS**P**

- ▶ Fentanyl* 0.5 micrograms/kg IV/IM/IN every 5 minutes. May be repeated to a total of 3 doses, **OR**
 - ▶ Morphine* 0.1mg/kg IV every 5 minutes. May be repeated to a total of 3 doses.
- Antidote:** For hypoventilation from opiate administration by EMS personnel, administer naloxone 0.4mg SQ/IV/IM/IN/ETT as needed.
- ▶ Nitronox** Patient must be able to self-administer this medication. Nitronox is contraindicated in abdominal pain, pneumothorax, head injured, or diving emergency patients.
 - ◆ **Note:** Nitronox may only be used if the patient has not received an opiate.

Contact Medical Control for guidance with all patients with altered mental status or multi-systems trauma or for requests to provide additional doses of a medication.

*Use cautiously in chronically ill patients; lower doses should be considered.

**A scavenger should be used and the ventilation fan should be running while administering Nitronox.

POISONING/SUBSTANCE ABUSE/OVERDOSE—ADULT**2.13****BASIC STANDING ORDERS****B**

- ▶ Consider waiting for law enforcement to secure the scene.
- ▶ Remove the patient from additional exposure.
- ▶ Routine Patient Care.
- ▶ Contact Poison Control at (800) 222-1222 as soon as practical.
- ▶ Absorbed poison:
 - ◆ Remove clothing and fully decontaminate.
 - ◆ If eye is involved, irrigate at least 20 minutes without delaying transport.
- ▶ Inhaled/injected poison:
 - ◆ Administer high-flow oxygen.
 - ◆ **Note:** Pulse oximetry may not be accurate for toxic inhalation patients.
- ▶ Ingested poison:
 - ◆ Consider activated charcoal 25 – 50 grams PO if ordered by Poison Control or Medical Control.
 - ◆ Bring container to receiving hospital.
- ▶ For MCI related to organophosphate exposure, see [Nerve Agent & Organophosphates Protocol 8.2](#).
- ▶ For suspected isolated cyanide poisoning, see [Smoke Inhalation Protocol 2.16](#).

INTERMEDIATE STANDING ORDERS**I**

- ▶ Suggested narcotic antidotes: Naloxone 0.4 – 2mg IV/IM/SQ/IN.
If no response, may repeat initial dose every 5 minutes to a total of 10mg.

PARAMEDIC STANDING ORDERS**P****Suggested Antidotes**

- | | |
|----------------------|---|
| ▶ Tricyclic | Sodium bicarbonate 1mEq/kg IV. |
| ▶ Beta blocker | Glucagon 2 – 5mg IV/IM/SQ. |
| ▶ Ca Channel Blocker | Calcium chloride 1 – 2 grams IV bolus followed by 20 – 40mg/kg/hr.
Glucagon 2 – 5mg IV/IM/SQ. |
| ▶ Dystonic reaction | Diphenhydramine 25 – 50mg IV for dystonic reactions induced by antipsychotics, such as haloperidol, or anti-emetics such as prochlorperazine or metoclopramide. |
| ▶ Organophosphates | Atropine 2mg IV every 5 minutes as needed and pralidoxime 1 – 2 gram IV over 30 – 60 minutes. |

POISONING/SUBSTANCE ABUSE/OVERDOSE—PEDIATRIC**2.13P****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Consider waiting for law enforcement to secure the scene.
- ▶ Remove the patient from additional exposure.
- ▶ Routine Patient Care.
- ▶ Contact Poison Control at (800) 222-1222 as soon as practical.
- ▶ Absorbed poison:
 - ◆ Remove clothing and fully decontaminate.
 - ◆ If eye is involved, irrigate at least 20 minutes without delaying transport.
- ▶ Inhaled/injected poison:
 - ◆ Administer high-flow oxygen.
 - ◆ **Note:** Pulse oximetry may not be accurate for toxic inhalation patients.
- ▶ Ingested poison:
 - ◆ Consider activated charcoal per length-based resuscitation tape if ordered by Poison Control or Medical Control.
 - ◆ Bring container to receiving hospital.
- ▶ For MCI related to organophosphate exposure, see [Nerve Agent & Organophosphates Protocol 8.2P](#).
- ▶ For suspected isolated cyanide poisoning see [Smoke Inhalation Protocol 2.16P](#).

PARAMEDIC STANDING ORDERS**P****Suggested Antidotes**

- | | |
|----------------------|---|
| ▶ Narcotic | Naloxone 0.1mg/kg up to 2mg, IV/IM/SQ/IN or ETT. |
| ▶ Tricyclic | Sodium bicarbonate 1mEq/kg IV. |
| ▶ Beta blocker | Glucagon 0.025 – 0.05mg/kg IV. |
| ▶ Ca channel blocker | Calcium chloride 20mg/kg/dose IV over 5 minutes, repeat once if necessary.
Glucagon 0.025 – 0.05mg/kg IV. |
| ▶ Dystonic reaction | Diphenhydramine 0.5mg/kg IV/IM for dystonic reactions induced by antipsychotics, such as haloperidol or antiemetics such as prochlorperazine or metoclopramide. |
| ▶ Organophosphates | Atropine 0.05 – 0.1mg/kg IV/IM (minimum dose of 0.1mg, maximum dose 5mg), repeat every 2 – 5 minutes as needed.
Pralidoxime 25 – 50mg/kg/dose IV for maximum dose gram or IM for maximum dose of 2 grams, repeat within 30 – 60 minutes as needed, and every hour for 1 – 2 doses as needed. |

SEIZURES—ADULT**2.14****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Do not attempt to restrain the patient; protect the patient from injury.
- ▶ History preceding a seizure is very important. Find out what precipitated the seizure (e.g., medication non-compliance, active infection, trauma, hypoglycemia, substance abuse, third-trimester pregnancy, etc.).
- ▶ If diazepam rectal gel (Diastat) has been prescribed by the patient's physician, assist the patient or caregiver with administration in accordance with physician's instructions.
- ▶ If the patient has an implanted vagus nerve stimulator (VNS), suggest that family members use the VNS magnet to activate the VNS and, if unsuccessful, reattempt up to 3 times total. Assist with VNS magnet activation (provided it does not interfere with other care).

PARAMEDIC STANDING ORDERS**P**

- ▶ If generalized seizure activity is present, consider:
 - ◆ Lorazepam 2 – 4mg IV/IM repeated every 5 minutes to a total of 8mg, **OR**
 - ◆ Diazepam 5 – 10mg IV (then 2.5mg IV every 5 minutes to total of 20mg), **OR**
 - ◆ Midazolam 2.5 – 6mg IV/IM/IN repeated every 5 minutes or until seizure activity is abolished.
- Antidote:** Flumazenil 0.2mg IV over 30 seconds to reverse the adverse effects of benzodiazepines that were administered by EMS personnel.
- ▶ Consider magnesium sulfate, 4 grams IV over 5 minutes in the presence of seizure in the third trimester of pregnancy.
- ▶ If the patient has an implanted vagus nerve stimulator, pass the magnet closely over the chest area where the VNS device is implanted and, if unsuccessful, repeat every 3 – 5 minutes for a total of 3 times. **Note: do not delay medication administration.**

SEIZURES—PEDIATRIC**2.14P****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Do not attempt to restrain the patient; protect the patient from injury.
- ▶ History preceding a seizure very important. Find out what precipitated the seizure (e.g., medication non-compliance, active infection, trauma, hypoglycemia, substance abuse, fever, etc.).
- ▶ If diazepam rectal gel (Diastat) has been prescribed by the patient's physician, assist the patient or caregiver with administration in accordance with physician instructions.
- ▶ If the patient has an implanted vagus nerve stimulator (VNS), suggest that family members use the VNS magnet to activate the VNS and, if unsuccessful, reattempt up to 3 times total. Assist with VNS magnet activation (provided it does not interfere with other care).
- ▶ Obtain the patient's temperature (rectal route preferred, as appropriate).

PARAMEDIC STANDING ORDERS**P**

- ▶ If the blood the glucose reading is <60mg/dl, see [Diabetic Emergencies Protocol 2.4P](#).
- ▶ If generalized seizure activity is present, consider:
 - ◆ Lorazepam 0.1mg/kg IV/IM (single maximum dose 4mg), **OR**
 - ◆ Midazolam 0.1mg/kg IV/IM or 0.2mg/kg IN (single maximum dose 6mg; Note: a 5mg/ml concentration is recommended for IN administration), **OR**
 - ◆ Diazepam 0.2mg/kg IV or 0.5mg/kg PR (single maximum dose 10mg IV or 20mg PR).

Antidote: >1 year*: flumazenil 0.01mg/kg (up to 0.2mg) IV over 15 seconds.

May repeat every 1 minute up to 4 additional doses to a maximum dose of 0.05mg/kg IV or 1mg IV, whichever is lower.

- ▶ Any of the above may be repeated once after 5 minutes.
- ▶ If the patient has an implanted vagus nerve stimulator: pass the magnet closely over the chest area where the VNS is implanted and, if unsuccessful, repeat every 3 – 5 minutes for a total of 3 times. **Note: do not delay medication administration.**

*The safety and efficacy of flumazenil in the reversal of conscious sedation in pediatric patients <1 year has not been established.

SHOCK—ADULT & PEDIATRIC**2.15**

Any patient with signs, symptoms, and history suggesting inadequate tissue perfusion should be considered to be in shock. Make every effort to determine and treat the underlying cause. Regardless of etiology, shock patients should be transported immediately to the nearest appropriate facility for definitive care.

DETERMINE ETIOLOGY OF SHOCK

- ▶ **Obstructive Shock:** Consider tension pneumothorax, pulmonary embolism, and cardiac tamponade.
- ▶ **Hypovolemic Shock:** Dehydration, volume loss, or hemorrhagic shock.
- ▶ **Cardiogenic Shock:** History of cardiac surgery, rhythm disturbances, or post cardiac arrest. Assess for acute MI and pulmonary edema.
- ▶ **Distributive Shock:** Neurogenic shock, sepsis, or anaphylaxis. Assess for fever and signs of infection.

BASIC STANDING ORDERS**B**

- ▶ Routine Patient Care.
- ▶ Attempt to determine and treat the underlying cause of shock.
- ▶ Administer oxygen at a rate to keep oxygen saturation $\geq 94\%$.
- ▶ Prevent heat loss. Cover with warm blankets if available and if the patient is not febrile.
- ▶ Control active bleeding using direct pressure, pressure bandages, pressure points, tourniquets, or as a last resort, consider using a hemostatic bandage.
 - ◆ Hemostatic bandages must be of a non-exothermic type that can be washed off with 0.9% NaCl (normal saline).

INTERMEDIATE STANDING ORDERS—ADULT**I**

- ▶ Initiate up to two (2) large-bore IV/IOs. Do not delay transport to start IV.
- ▶ Administer 0.9% NaCl (normal saline) to maintain systolic blood pressure $>90\text{mmHg}$ in 250 – 500ml boluses. Total volume should not exceed 2,000ml.
- ▶ Patients should be reassessed frequently, with special attention given to the lung examination to ensure volume overload does not occur.

PARAMEDIC STANDING ORDERS—ADULT

- ▶ If there is no response to IV Fluid bolus and **no suspicion of hemorrhagic shock**, consider:
 - ◆ Norepinephrine 1 – 30 micrograms/minute via pump.
 - ◆ Dopamine infusion 5 – 20 micrograms/kg/minute via pump.

PARAMEDIC STANDING ORDERS—PEDIATRIC**P**

- ▶ Administer 0.9% NaCl (normal saline) in 20ml/kg bolus (may repeat to a maximum 40ml/kg) to improve clinical condition.
 - ◆ Pediatric therapeutic end-points (in order of importance) are: cap refill, normal pulses and no difference between peripheral and central pulses, warm extremities, normal mental status, and **THEN** normal BP.
- ▶ Consider fluid administration via infusion pump.
- ▶ If signs and symptoms of hypoperfusion persist or symptoms worsen, regardless of etiology, consider norepinephrine or dopamine administration via length-based resuscitation tape in the absence of hemorrhagic shock.

SMOKE INHALATION—ADULT**2.16**

Smoke is a dangerous mixture of toxic gases and suspended chemicals consequential to combustion. Smoke inhalation is the result of inhaling these heated components. While it may be impossible to predict exactly what components of combustion are inhaled, cyanide (CN) and carbon monoxide (CO) are common elements found in smoke and should be suspected in all smoke inhalation victims.

- ▶ Symptoms: headache, confusion, dyspnea, chest tightness, nausea.
- ▶ Signs: soot in the nose or mouth, change in level of consciousness, seizure, dilated pupils, coughing, tachypnea and hypertension (early), bradypnea and hypotension (late), shock, vomiting.

BASIC STANDING ORDERS**B**

- ▶ Routine Patient Care.
- ▶ Oxygen 100% via NRB or BVM.
- ▶ Decontamination concurrent with initial resuscitation.
- ▶ If a carbon monoxide (CO) oximeter (e.g., RAD-57) is available, obtain carbon monoxide levels.
- ▶ SpO₂ may be inaccurate in environments with carbon monoxide or cyanide.
- ▶ If a measuring device is available, obtain atmospheric levels of carbon monoxide (CO) and cyanide (CN).

INTERMEDIATE/PARAMEDIC STANDING ORDERS**I/P**

If you have a patient with a history of smoke exposure and an altered level of consciousness and/or hemodynamic or respiratory compromise, administer, if available:

- ▶ Hydroxocobalamin via use of Cyanokit*
 - ◆ Reconstitute: Add 100ml 0.9% NaCl (normal saline) to each vial via transfer spike. Fill to line with vials upright.
 - ◆ Rock vials for 30 seconds (do not shake).
 - ◆ Infuse each vial over 7.5 minutes for a total of 2 vials in 15 minutes.
 - ◆ Depending on clinical response, a second dose may be required.
 - ◇ If a second dose is required, infuse at rate ranging between 15 minutes (for patients in extremis) to 120 minutes.

Note: Do not administer other drugs concurrently in same IV as hydroxocobalamin.

*Cyanokit: Each kit contains two 250ml glass vials; each vial contains 2.5 grams of lyophilized hydroxocobalamin for injection, two sterile transfer spikes, one sterile IV infusion set, and one quick-use reference guide (reconstituting agent, 0.9% NaCl [normal saline], is not included).

References: Eckstein, M, FACEP; Maniscalco, PM, MPA, DrBA(c), EMT-P. Focus on Smoke Inhalation—The Most Common Cause of Acute Cyanide Poisoning. Prehospital and Disaster Medicine, March – April 2006.

Benner, JP, NREMT-P; Lawrence, DO; Brady, W, MD. Smoke Signals, JEMS, October 2009, Vol 34. No.10.

SMOKE INHALATION—PEDIATRIC**2.16P**

Smoke is a dangerous mixture of toxic gases and suspended chemicals consequential to combustion. Smoke inhalation is the result of inhaling these heated components. While it may be impossible to predict exactly what components of combustion are inhaled, cyanide (CN) and carbon monoxide (CO) are common elements found in smoke and should be suspected in all smoke inhalation victims.

- ▶ Symptoms: headache, confusion, dyspnea, chest tightness, nausea.
- ▶ Signs: soot in the nose or mouth, change in level of consciousness, seizure, dilated pupils, coughing, tachypnea and hypertension (early), bradypnea and hypotension (late), shock, vomiting.

BASIC/INTERMEDIATE STANDING ORDERS**B/I**

- ▶ Routine Patient Care.
- ▶ Oxygen 100% via NRB or BVM.
- ▶ Decontamination concurrent with initial resuscitation.
- ▶ If a carbon monoxide (CO) oximeter (e.g., RAD-57) is available, obtain carbon monoxide levels.
- ▶ SpO₂ may be inaccurate in environments with carbon monoxide or cyanide.
- ▶ If a measuring device is available, obtain atmospheric levels of carbon monoxide (CO) and cyanide (CN).

PARAMEDIC STANDING ORDERS**P**

Patients with soot in the nose or mouth following exposure to structure-fire smoke in an enclosed space for any duration, and/or someone “found down” in any industrial setting and with an altered level of consciousness and/or hemodynamic or respiratory compromise:

- ▶ Hydroxocobalamin via use of Cyanokit*
 - ◆ Reconstitute: Add 100ml 0.9% NaCl (normal saline) to each vial via transfer spike to yield a 25mg/ml solution. Fill to line with vials upright.
 - ◆ Rock vials for 30 seconds (do not shake).
 - ◆ Administer 70mg/kg by IV over 15 minutes.
 - ◆ Depending on clinical response, a second dose may be required for a total dose of 140mg/kg.
 - ◇ If a second dose is required, infuse at a rate ranging between 15 minutes (for patients in extremis) and 120 minutes.

Note: Do not administer other drugs concurrently in same IV as Hydroxocobalamin.

*Cyanokit: Each kit contains two, 250ml glass vials; each vial contains 2.5 grams of lyophilized hydroxocobalamin for injection, two sterile transfer spikes, one sterile IV infusion set, and one quick-use reference guide (reconstituting agent, 0.9% NaCl [normal saline], is not included).

References: Eckstein, M, FACEP; Maniscalco, PM, MPA, DrBA(c), EMT-P. Focus on Smoke Inhalation—The Most Common Cause of Acute Cyanide Poisoning. Prehospital and Disaster Medicine, March – April 2006.

Benner, JP, NREMT-P; Lawrence, DO; Brady, W, MD. Smoke Signals, JEMS, October 2009, Vol 34. No.10.

STROKE—ADULT & PEDIATRIC**2.17****BASIC STANDING ORDERS****B**

- ▶ Routine Patient Care.
- ▶ Perform Prehospital Stroke Scale, or equivalent nationally recognized stroke scale.
- ▶ Clearly determine time of onset of the symptoms.
 - ◆ If the patient wakes from sleep or is found with symptoms of stroke, the time of onset of first symptoms is defined as the last time the patient was observed to be normal.
- ▶ Notify the emergency department as soon as possible.
- ▶ Obtain glucose reading via glucometer.
- ▶ Elevate the head of the stretcher 30 degrees.
- ▶ Do not delay for ALS intercept.
- ▶ 12-lead ECG if available and it does not delay transport.
- ▶ Consider transporting a witness, family member, or caregiver with the patient to verify the time of the onset of stroke symptoms.
- ▶ If the onset of signs and symptoms **PLUS** transport time is <4.5 hours, consider transport to a facility specializing in stroke care.

INTERMEDIATE (ADULT ONLY)/PARAMEDIC (ADULT & PEDIATRIC) STANDING ORDERS**I/P**

- ▶ Consider underlying causes.

PREHOSPITAL STROKE SCALE

Abnormal findings on any part of the exam may indicate an acute stroke.
 (Interpretation: If any 1 of these 3 signs is abnormal, the probability of a stroke is 72%.)

FACIAL DROOP	HAVE THE PATIENT SMILE AND SHOW TEETH
Normal	Both sides of the face move equally well.
Abnormal	One side of the face does not move as well as the other side.
ARM DRIFT	HAVE THE PATIENT CLOSE HIS/HER EYES AND HOLD HIS/HER ARMS EXTENDED
Normal	Both arms move the same, or both arms don't move at all.
Abnormal	One arm doesn't move, or one arm drifts down compared to the other.
SPEECH	ASK THE PATIENT TO REPEAT A PHRASE SUCH AS, "YOU CAN'T TEACH AN OLD DOG NEW TRICKS."
Normal	Patient says the correct words without slurring.
Abnormal	Patient slurs words, says the wrong words, or is unable to speak.

ACUTE CORONARY SYNDROMES—ADULT**3.0**

All patients with complaints of chest pain should not automatically be treated with ASA and nitrates. Consider the likelihood of ACS based on the nature of the symptoms, the patient's age, cardiac risk factors, past medical history, etc.

BASIC STANDING ORDERS**B**

- ▶ Routine Patient Care.
- ▶ Administer oxygen only to patients with dyspnea, hypoxia (O_2 sat <94%), or signs of heart failure at a rate to keep O_2 saturation $\geq 94\%$.
- ▶ Aspirin 324mg PO (chewable). If the patient states they cannot take ASA, call Medical Control for guidance.
- ▶ Facilitate administration of the patient's own nitroglycerin every 3 – 5 minutes while symptoms persist and systolic BP is >100mmHg, to a total of 3 doses.
- ▶ 12-lead ECG if available and it does not delay transport.
- ▶ Minimize on-scene time.
- ▶ If feasible, transport suspected STEMI patients to the most appropriate facility in accordance with local STEMI guidelines/agreements.
- ▶ Complete the fibrinolytic questionnaire at the end of this protocol.

INTERMEDIATE STANDING ORDERS**I**

- ▶ Nitroglycerin 0.4mg SL every 3 – 5 minutes while symptoms persist and if systolic BP is >100mmHg (requires completion of a NH Bureau of EMS approved training module before using this protocol).
- ▶ Must establish IV before administration of nitroglycerin.

PARAMEDIC STANDING ORDERS**P**

- ▶ Consider IV nitroglycerin at 10 micrograms/minute if symptoms persist after 3rd SL nitroglycerin (there must be two (2) IV lines or a Twin Cath in place and the IV nitroglycerin must be on an infusion pump).
 - ◆ Increase IV nitroglycerin by 10 micrograms/minute every 5 minutes while symptoms persist and systolic BP is >100mmHg.
 - ◆ If IV nitroglycerin is not available, consider the application of nitroglycerin paste 1 – 2 inches transdermally.
- ▶ Consider morphine 1 – 5 mg IV/IM every 5 minutes to a maximum of 15mg titrated to pain and systolic BP is >100mmHg.
- ▶ Consider fentanyl 25 – 50 micrograms slow IV push every five minutes up to 150 micrograms for patients with a morphine allergy or known/suspected right ventricular infarct.
- ▶ Treat dysrhythmias as needed; refer to the appropriate protocol.

Acute Coronary Syndromes—Adult continued on next page ➞

ACUTE CORONARY SYNDROMES—ADULT continued**3.0**

↪ *Acute Coronary Syndromes—Adult continued from previous page*

FOR AMI, CONTACT RECEIVING FACILITY TO ACTIVATE PCI TEAM

- ▶ If STEMI or new left bundle branch block and no affirmative finding from fibrinolytic questionnaire, consider (with online Medical Control):
 - ◆ Heparin 5000u IV bolus.

FIBRINOLYTIC QUESTIONNAIRE

Any trauma, surgery, or head injury within the last month?
Any current or recent active bleeding within the last month?
Any lumbar punctures, spinal anesthesia, or stroke within last month?
Any known bleeding disorder?
Do you have a clinical suspicion of aortic dissection?
Is the systolic BP >180 at baseline or after Rx with NTG?

Reference: AHA Circulation 2010;122:S787–S817.

BRADYCARDIA (SYMPTOMATIC)—ADULT**3.1****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Consider the underlying causes of bradycardia: hypoxia, hypoglycemia, hypovolemia, and hypothermia.
- ▶ Administer oxygen to keep SpO₂ ≥94%.
- ▶ 12-Lead ECG if available and it does not delay transport.

PARAMEDIC STANDING ORDERS**P****If symptomatic and hemodynamically unstable:**

- ▶ Consider atropine 0.5mg IV every 3 – 5 minutes to a total of 3mg.
- ▶ If atropine is ineffective:
 - ◆ Consider transcutaneous pacing.
 - ◆ Consider procedural sedation prior to or during transcutaneous pacing:
 - ◇ Lorazepam 1 mg IV or 2mg IM; may repeat once in 5 minutes, **OR**
 - ◇ Midazolam 2.5mg IV, IM, IN; may repeat once in 5 minutes, **OR**
 - ◇ Diazepam 2mg IV; may repeat once in 5 minutes.

- ▶ Consider dopamine infusion 2 – 10 micrograms/kg/minute, **OR**
- ▶ Consider epinephrine infusion at 2 – 10 micrograms/minute.
- ▶ Contact Medical Control for expert consultation.

If symptomatic, but hemodynamically stable:

- ▶ For beta blocker or calcium channel blocker overdose, consider glucagon 2 – 5mg IV over 3 – 5 minutes.
- ▶ For calcium channel blocker overdose, consider calcium chloride 1 – 2 grams IV over 10 minutes.
- ▶ Flumazenil 0.2mg IV over 30 seconds to reverse the effects of benzodiazepines administered by EMS personnel.
- ▶ For other toxicologic emergencies or overdoses, see the [Poisoning/Substance Abuse/Overdose Protocol 2.13](#).

Reference: AHA Circulation 2010; Part 8: pages S746 – S750; Part 12: pages S841-842.

BRADYCARDIA (SYMPTOMATIC)—PEDIATRIC**3.1P****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Consider the underlying causes of bradycardia: hypoxia, hypoglycemia, hypovolemia, and hypothermia.
- ▶ Assist ventilations as necessary. Administer oxygen to keep SpO₂ ≥94%.
- ▶ Begin/continue CPR in a child if their HR is <60bpm with hypoperfusion despite adequate ventilation and oxygenation.
- ▶ 12-lead ECG if available and it does not delay transport.

PARAMEDIC STANDING ORDERS**P**

- ▶ Epinephrine 1:1,000, 0.01mg/kg IV (0.1ml/kg of 1:10,000) every 3 – 5 minutes, **OR**
- ▶ Consider atropine 0.02mg/kg IV (minimum single dose: 0.1mg; total maximum dose: 0.04mg/kg).
- ▶ Consider transcutaneous pacing.
- ▶ Consider procedural sedation prior to/during pacing:
 - ◆ Midazolam 0.05mg/kg IV, **OR**
 - ◆ Diazepam 0.05mg/kg IV.
- ▶ For hypoglycemia see [Diabetic \(Hypoglycemia/Hyperglycemia\) Emergencies Protocol 2.4](#).
- ▶ For beta blocker or calcium channel blocker overdose, consider glucagon 0.025 – 0.5mg/kg IV.
- ▶ For calcium channel blocker overdose consider calcium chloride 20mg/kg IV over 5 minutes; repeat once if necessary.
- ▶ Flumazenil 0.01mg/kg IV (maximum dose 0.2mg) over 30 seconds to reverse the adverse effects of benzodiazepines administered by EMS personnel.
- ▶ For other toxicologic emergencies or overdoses see [Poisoning/Substance Abuse/Overdose Protocol 2.13P](#).

PEDIATRIC VITAL SIGNS BY AGE

Age	Heart Rate Avg.	Heart Rate Range	Respiratory Range	Systolic BP Avg.	Range
Newborn	140	110 – 180	40 – 60	72	52 – 92
1 month	135	90 – 170	30 – 50	82	60 – 104
1 year	120	80 – 160	20 – 30	94	70 – 118
2 years	110	80 – 130	20 – 30	95	73 – 117
4 years	105	80 – 120	20 – 30	96	65 – 117
6 years	100	75 – 115	18 – 24	97	76 – 116
8 years	90	70 – 110	18 – 22	99	79 – 119
10 years	90	70 – 110	16 – 20	102	82 – 122
12 years	85	60 – 110	16 – 20	106	84 – 128
14 years	80	60 – 105	16 – 20	110	84 – 136

Reference: AHA Circulation 2010; Part 14: pages S887 – S888.

CARDIAC ARREST—ADULT**3.2****BASIC STANDING ORDERS****B**

- ▶ Routine Patient Care—with focus on CPR.
- ▶ Immediate chest compressions.
- ▶ Apply AED and use as soon as possible (with minimum interruption of chest compressions).
- ▶ If ventilation is adequate with BVM, routine placement of advanced airway can be delayed.
- ▶ Consider termination of efforts or not attempting resuscitation (See [DNR Orders Protocol 6.4](#) and/or [Special Resuscitation Situations and Exceptions Protocol 6.11](#)).

INTERMEDIATE STANDING ORDERS

- ▶ Minimize interruptions of chest compressions for IV/IO placement.
- ▶ Document presenting cardiac rhythm in two separate leads, if possible.
- ▶ Consider treatable causes: hypoxia, overdose/poisoning, hypothermia, hypoglycemia, and hypovolemia—treat as per specific protocol.

FOR VENTRICULAR FIBRILLATION (VF)/PULSELESS VENTRICULAR TACHYCARDIA (VT):**I**

- ▶ CPR for 2 minutes; then defibrillation (use 360 joules for monophasic and 120 – 200 joules for biphasic defibrillators); then CPR for 5 cycles/2 minutes; then rhythm check; then:
- ▶ Consider (if trained and certified) epinephrine (1:10,000) 1mg IV; repeat every 3 – 5 minutes.
- ▶ Continue CPR for 2 minutes between interventions; stop only for defibrillation, rhythm check, or return of circulation.

FOR ASYSTOLE OR PULSELESS ELECTRICAL ACTIVITY (PEA):

- ▶ Continue CPR for 2 minutes.
- ▶ Consider (if trained and certified): epinephrine (1:10,000) 1mg IV; repeat every 3 – 5 minutes.
- ▶ Continue CPR for 2 minutes between interventions; stop only for rhythm check or return of circulation.

PARAMEDIC STANDING ORDERS**P**

- ▶ Follow ACLS guidelines as trained and credentialed.
- ▶ Placement of an advanced airway during cardiac arrest should not interrupt chest compressions. In this setting, supraglottic airways and ETTs can be considered equivalent. ETT placement, if used, should be limited to 1 attempt of 10 seconds or less.
- ▶ Monitor quantitative waveform capnography throughout resuscitation to assess ETT placement (and to monitor continued proper placement), CPR quality, and to monitor for signs of ROSC.
- ▶ Consider tension pneumothorax and treat with needle decompression.
- ▶ Consider a nasogastric or orogastric tube for the intubated patient.
- ▶ For suspected metabolic acidosis, suspected or known hyperkalemia (dialysis patient), or known tricyclic antidepressant overdose, consider sodium bicarbonate 1mEq/kg IV.

Cardiac Arrest—Adult continued on next page ➞

CARDIAC ARREST—ADULT continued**3.2**

↩ Cardiac Arrest—Adult continued from previous page

PARAMEDIC STANDING ORDERS continued**POST-RESUSCITATIVE CARE**

- ▶ If feasible, acquire 12-lead ECG (if available and it does not delay transport) and transmit to hospital.
- ▶ If the patient is unresponsive, consider transport to a facility capable of inducing therapeutic hypothermia.

FOR POST-RESUSCITATION HYPOTENSION:**P**

- ▶ IV 0.9% NaCl (normal saline) at wide open, **AND/OR**
- ▶ Consider (an infusion pump is required for the use of these pressor agents):
 - ◆ Dopamine infusion 5 – 20 micrograms/kg/minute, **OR**
 - ◆ Norepinephrine infusion 1 – 30 micrograms/minute, **OR**
 - ◆ Phenylephrine 100 – 180 microgram loading dose followed by infusion 40 – 60 micrograms/minute, **OR**
 - ◆ Epinephrine infusion 2 – 10 micrograms/minute titrated to effect.

Reference: AHA Circulation 2010;122;S729-S767.

CARDIAC ARREST—PEDIATRIC**3.2P****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care—with focus on CPR.
- ▶ Immediate chest compressions.
- ▶ Apply AED and use as soon as possible (with minimum interruption of chest compressions).
- ▶ From birth to age 8 years use pediatric AED pads.
 - ◆ If pediatric AED pads are unavailable, providers may use adult AED pads, provided the pads do not overlap.
- ▶ Consider termination of efforts or not attempting resuscitation (See [DNR Orders Protocol 6.4](#) and/or [Special Resuscitation Situations and Exceptions 6.11](#)).
- ▶ Consider treatable causes: hypoxia, overdose/poisoning, hypothermia, and hypovolemia (treat as per specific protocol).

PARAMEDIC STANDING ORDERS**P**

- ▶ If ventilation is adequate with BVM, routine placement of advanced airway can be delayed.
- ▶ Placement of an advanced airway during cardiac arrest should not interrupt chest compressions. In this setting, supraglottic airways and ETTs can be considered equivalent. ETT placement, if used, should be limited to 1 attempt of 10 seconds or less.
- ▶ Monitor quantitative waveform capnography throughout resuscitation to assess ETT placement (and to monitor continued proper placement), CPR quality, and to monitor for signs of ROSC.
- ▶ Consider tension pneumothorax and treat with needle decompression.
- ▶ Hypoglycemia (See [Diabetic \(Hypoglycemia/Hyperglycemia\) Emergencies Protocol 2.4P](#)).
- ▶ Consider nasogastric or orogastric tube for the intubated patient.
- ▶ For suspected metabolic acidosis, suspected or known hyperkalemia (dialysis patient), or known tricyclic antidepressant overdose, consider sodium bicarbonate 1mEq/kg IV.

FOR VENTRICULAR FIBRILLATION (VF)/PULSELESS VENTRICULAR TACHYCARDIA (VT):

- ▶ Defibrillate at 2J/kg; perform CPR for 2 minutes and recheck rhythm; if still a shockable rhythm, defibrillate at 4J/kg; perform CPR for 2 minutes; reassess every 2 minutes and continue to defibrillate at 4J/kg.
- ▶ If no response after first defibrillation attempt, administer epinephrine (1:10,000) 0.01mg/kg (0.1ml/kg) IV/IO **OR** 0.1mg/kg (1:1,000; 0.1ml/kg) via ETT.
 - ◆ Repeat every 3 – 5 minutes.
- ▶ If no response after second defibrillation attempt, consider:
 - ◆ Amiodarone 5mg/kg (maximum 300mg) IV, **OR**
 - ◆ Lidocaine 1mg/kg (maximum 100mg), **OR**
 - ◆ Magnesium sulfate 25 – 50mg/kg (maximum 2 grams) IV over 1 – 2 minutes for torsades de pointes.

Cardiac Arrest—Pediatric continued on next page ➞

CARDIAC ARREST—PEDIATRIC continued**3.2P***↪ Cardiac Arrest—Pediatric continued from previous page***PARAMEDIC STANDING ORDERS continued****FOR ASYSTOLE OR PULSELESS ELECTRICAL ACTIVITY (PEA):****P**

- ▶ Administer epinephrine (1:10,000) 0.01mg/kg (0.1ml/kg) IV **OR** 0.1mg/kg (1:1,000; 0.1ml/kg) via ETT; repeat every 3 – 5 minutes.
- ▶ Give 2 minutes of CPR, then check rhythm:
 - ◆ If asystole or PEA, continue epinephrine and 2 minutes of CPR until:
 - ◇ Pulse obtained, **OR**
 - ◇ Shockable rhythm obtained, **OR**
 - ◇ Decision made to discontinue further efforts.

POST-RESUSCITATIVE CARE

- ▶ If the patient is unresponsive, consider transport to a facility capable of inducing therapeutic hypothermia.

FOR POST-RESUSCITATION HYPOTENSION:

- ▶ IV 0.9% NaCl (normal saline) 20ml/kg (may repeat x1) **AND/OR**
- ▶ Consider pressor agent (an infusion pump is required):
 - ◆ Dopamine infusion 5 – 20 micrograms/kg/min, **OR**
 - ◆ Norepinephrine infusion 0.1 – 2 micrograms/kg/min titrated to effect, **OR**
 - ◆ Epinephrine 0.1 – 1 micrograms/kg/min titrated to effect.

Reference: AHA Circulation 2010;122:S876-S908.

CONGESTIVE HEART FAILURE (PULMONARY EDEMA)—ADULT**3.3****BASIC STANDING ORDERS****B**

- ▶ Routine Patient Care.
- ▶ Place the patient in a semi-sitting or full sitting position.
- ▶ Administer oxygen at a rate to keep $\text{SpO}_2 \geq 94\%$.
- ▶ Facilitate administration of the patient's own nitroglycerin every 5 minutes while symptoms persist and systolic BP is $>100\text{mmHg}$.
- ▶ 12-lead ECG if available and it does not delay transport.

INTERMEDIATE STANDING ORDERS**I**

- ▶ Consider Continuous Positive Airway Pressure (CPAP) with maximum 10cm H_2O pressure support.

PARAMEDIC STANDING ORDERS**P**

- ▶ Consider nitroglycerin 0.4mg SL every 5 minutes while symptoms persist and if the systolic BP is $>100\text{ mmHg}$.
- ▶ If not improving with above measures and systolic BP remains $>100\text{ mmHg}$, consider:
 - ◆ IV nitroglycerin infusion beginning at 10 microgram/minute, via infusion pump titrated to effect and systolic BP is $>100\text{ mmHg}$, **OR**
 - ◆ Nitroglycerin paste 1" – 2" transdermally.
- ▶ Consider furosemide 20 – 40mg IV or bumetanide 1mg IV for patients with history of CHF and if systolic BP is $>100\text{mmHg}$ and evidence of fluid overload.

Reference: AHA Circulation 2010; 122:S787-S817.

TACHYCARDIA—ADULT**3.4****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ 12-lead ECG if available and it does not delay transport.

PARAMEDIC STANDING ORDERS—ADULT**P**

- ▶ Consider and treat potential underlying causes, e.g., hypoxemia, dehydration, fever, etc.

If symptomatic and hemodynamically unstable:

- ▶ Synchronized cardioversion:

Use the following initial energy doses, then escalate to the next higher energy level if no conversion. Biphasic devices: follow manufacturer's recommendations for dosing.

- ◆ For **narrow regular** rhythm: 50 – 100J biphasic or 200J monophasic.
- ◆ For **narrow irregular** rhythm: 120 – 200J biphasic or 200J monophasic.
- ◆ For **wide regular** rhythm: 100J biphasic or monophasic.
- ◆ For **wide irregular/polymorphic VT**: 120 – 200J biphasic or 360 monophasic, using unsynchronized defibrillation doses if unable to sync:
 - ◇ Consider procedural sedation if practical:
 - ◆ Lorazepam 1mg IV or 2mg IM; may repeat once in 5 minutes, **OR**
 - ◆ Midazolam 2.5mg IV, IM, IN; may repeat once in 5 minutes, **OR**
 - ◆ Diazepam 2mg IV; may repeat once in 5 minutes.
 - ◆ Flumazenil 0.2mg IV over 30 seconds to reverse the effects of benzodiazepines administered by EMS personnel.
- ◆ For **regular, narrow complex**: consider adenosine 6mg rapid IV.
 - ◇ May repeat at dose of 12mg every 1 – 2 minutes x2 if no conversion.
 - ◇ May repeat successful dose if rhythm recurs after conversion.

If symptomatic, but hemodynamically stable:

- ▶ For **narrow complex tachycardia** (with a heart rate persistently >150bpm):
 - ◆ Trial vagal maneuvers.
 - ◆ If vagal maneuvers fail and the **rhythm is regular**:
 - ◇ Consider: adenosine 6mg rapid IV.
 - ◆ May repeat at dose of 12mg every 1 – 2 minutes x2 if no conversion.
 - ◆ May repeat successful dose if rhythm recurs after conversion.
 - ◆ Consider:
 - ◇ Diltiazem 0.25mg/kg IV over 2 minutes.
 - ◆ **NOTE: diltiazem is contraindicated in WPW.**
 - ◆ May repeat dose in 15 minutes at 0.35mg/kg, if necessary.
 - ◆ Consider maintenance infusion at 5 – 15mg/hour, **OR**
 - ◆ Metoprolol 5mg over 2 – 5 minutes.
 - ◇ May repeat every five minutes to a maximum of 15mg as needed to achieve a ventricular rate of 90 – 100.

Tachycardia—Adult continued on next page ➞

TACHYCARDIA—ADULT continued**3.4**

↩ Tachycardia—Adult continued from previous page

PARAMEDIC STANDING ORDERS continuedFor **wide complex tachycardia:**▶ **Only for regular rhythm with monomorphic QRS:**

- ◆ Consider: adenosine 6mg rapid IV.
 - ◇ May repeat at dose of 12mg after 1 – 2 minutes if no conversion.
 - ◇ May repeat successful dose if rhythm recurs after conversion.

P

▶ Consider:

- ◆ Amiodarone 150mg mixed with 50 – 100ml of NaCl (normal saline) or D5W over 10 minutes.
 - ◇ May repeat once in 10 minutes.
 - ◇ If successful, consider a maintenance infusion of 1mg/minute.
- ◆ Lidocaine (considered second-line therapy) 1 – 1.5mg/kg IV.
 - ◇ May repeat once in 5 minutes to maximum of 3mg/kg.
 - ◇ If successful, consider a maintenance infusion of 1 – 4mg/minute.

For **polymorphic VTach/torsades associated with known prolonged QT interval:**

▶ Consider magnesium sulfate 1 – 2 grams IV over 5 minutes.

Reference: AHA Circulation 2010;122:S729-S767.

TACHYCARDIA—PEDIATRIC**3.4P****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ 12-lead ECG if available and it does not delay transport.

PARAMEDIC STANDING ORDERS**P**

Consider that rhythm may be sinus tachycardia with a treatable cause.

If hemodynamically unstable:**▶ For narrow complex/probable SVT:**

- ◆ Adenosine 0.1mg/kg IV not to exceed 6mg (first dose).
 - ◇ Repeat once at 0.2mg/kg IV not to exceed 12mg (subsequent dose).
- ◆ If adenosine is ineffective or for **wide complex**, perform synchronized cardioversion:
 - ◇ 0.5 – 1J/kg; if unsuccessful, increase to 2J/kg.
 - ◇ Consider procedural sedation prior to cardioversion:
 - ◆ Midazolam 0.05mg/kg IV, **OR**
 - ◆ Diazepam 0.05mg/kg IV.
 - ◆ Flumazenil 0.01mg/kg IV (maximum dose 0.2mg) over 30 seconds to reverse the adverse effects of benzodiazepines administered by EMS personnel.

If symptomatic but hemodynamically stable:**▶ For narrow complex, probable SVT, or regular wide complex tachycardia (monomorphic QRS ONLY):**

- ◆ Consider adenosine 0.1mg/kg IV not to exceed 6mg (first dose).
- ◆ May repeat once at 0.2mg/kg IV not to exceed 12mg (subsequent dose).

▶ For wide complex:

- ◆ Consider contacting online Medical Control for consideration of amiodarone 5mg/kg (maximum: 300mg) over 20-60 minutes.

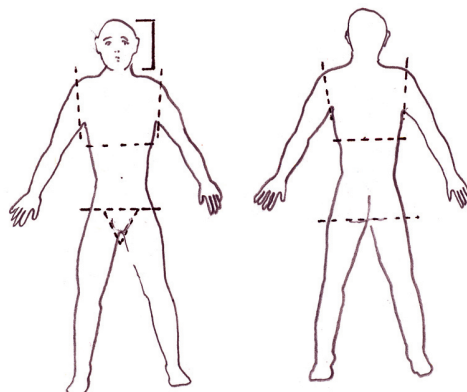
Reference: AHA Circulation 2010;122:S876-S908.

BURNS (THERMAL)—ADULT**4.0****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Stop the burning process.
- ▶ Remove jewelry.
- ▶ Decontaminate the patient as appropriate.
- ▶ Assess the patient's airway for evidence of smoke inhalation or burns: soot around mouth or nostrils, singed hair, carbonaceous sputum.
- ▶ Maintain patent airway.
- ▶ Determine percent extent of the burn using Rule of Nines. Do not include 1st degree burns in BSA%.
- ▶ Determine depth of injury.
- ▶ If a partial thickness burn (2nd degree) is <10% body surface area, apply room-temperature water or room-temperature wet towels to the burned area for a maximum of 15 minutes. Prolonged cooling may result in hypothermia.
- ▶ Maintain body temperature.
- ▶ Cover burns with dry, sterile sheets, or dry, sterile dressings.
- ▶ Do not apply any ointments, creams, or gels to the burn area.

PARAMEDIC STANDING ORDERS**P**

- ▶ If the patient has respiratory difficulty, burns about the mouth or neck, or is producing carbonaceous sputum, consider advanced airway management. See [Airway Management Protocol 5.0](#).
- ▶ Refer to [Pain Management Protocol 2.12](#).

**THE RULE OF NINES—ADULT**

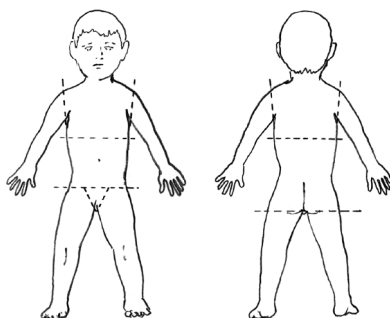
Head and neck	9%
Left arm	9%
Right arm	9%
Chest	9%
Abdomen	9%
Upper back	9%
Lower back	9%
Front of left leg	9%
Front of right leg	9%
Back of left leg	9%
Back of right leg	9%
Genital region	1%
	100%

BURNS (THERMAL)—PEDIATRIC**4.0P****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Stop the burning process.
- ▶ Remove jewelry.
- ▶ Decontaminate the patient as appropriate.
- ▶ Assess the patient's airway for evidence of smoke inhalation or burns: soot around mouth or nostrils, singed hair, carbonaceous sputum.
- ▶ Maintain patent airway.
- ▶ Determine percent extent of the burn using Rule of Nines. **Remember to use the Pediatric Rule of Nines.**
- ▶ Determine depth of injury.
- ▶ If a partial thickness (2nd degree) burn is <10% body surface area, apply room-temperature water or room-temperature wet towels to the burned area for a maximum of 15 minutes. Prolonged cooling may result in hypothermia. Children are more susceptible to heat loss.
- ▶ Maintain body temperature.
- ▶ Cover burns with dry, sterile sheets, or dry, sterile dressings.
- ▶ Do not apply any ointments, creams, or gels to the burn area.

PARAMEDIC STANDING ORDERS**P**

- ▶ If the patient has respiratory difficulty, burns about the mouth or neck, or is producing carbonaceous sputum, consider Airway Management. See [Airway Management Protocol 5.0](#).
- ▶ Refer to [Pain Management Protocol 2.12P](#).

**THE RULE OF NINES—PEDIATRIC**

Head and neck	18%
Left arm	9%
Right arm	9%
Chest	9%
Abdomen	9%
Upper back	9%
Lower back	9%
Left leg	13.5%
Right leg	13.5%
Genital region	1%
	100%

NOTE: For each year over 1 year of age, subtract 1% from head, add equally to legs.

DROWNING/SUBMERSION INJURIES—ADULT & PEDIATRIC***4.1******BASIC/INTERMEDIATE STANDING ORDERS*****B/I**

- ▶ Routine Patient Care.
- ▶ Assume c-spine injury and stabilize c-spine.
- ▶ Obtain specific history: time, temperature, associated trauma, etc.
- ▶ Begin resuscitation efforts while removing the patient from the water.
- ▶ Consider hypothermia.
- ▶ Remove wet clothes and warm the patient.
- ▶ Conscious patients with submersion injuries should be transported to the hospital.
- ▶ If the patient is submerged for:
 - ◆ Less than 1 hour—initiate full resuscitation.
 - ◆ 1 – 2 hours—initiate resuscitation; consider on-line Medical Control for termination of efforts.
 - ◆ Greater than 2 hours—Consider termination of efforts.

PARAMEDIC STANDING ORDERS**P**

- ▶ Consider CPAP to supplement the patient's own respiratory effort.

EYE & DENTAL INJURIES—ADULT & PEDIATRIC**4.2****EYE—BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Obtain visual history (use of corrective lenses, surgeries, use of protective equipment).
- ▶ Obtain visual acuity, if possible.
- ▶ Chemical irritants: flush with copious amounts of water, or 0.9% NaCl (normal saline).
- ▶ Thermal burns to eyelids: patch both eyes with cool saline compress.
- ▶ Impaled object: immobilize object and patch both eyes.
- ▶ Puncture wound: place protective device over both eyes (e.g., eye shield). Do not apply pressure.
- ▶ Foreign body: patch both eyes.
- ▶ If the patient cannot close their eyelids, keep their eye moist with a sterile saline dressing.

EYE—PARAMEDIC STANDING ORDERS**P**

- ▶ Proparacaine or tetracaine, 2 drops to affected eye; repeat every 5 minutes as needed. Consider use of Morgan lens for irrigation.
- ▶ Refer to the [Pain Management Protocol 2.12](#).
- ▶ Refer to the [Nausea Protocol 2.8](#).

DENTAL AVULSIONS—BASIC/INTERMEDIATE/PARAMEDIC STANDING ORDERS**B/I/P**

- ▶ Routine Patient Care.
- ▶ Dental avulsions should be placed in an obviously labeled container with saline-soaked dressing or cell-culture medium.

THORACIC INJURIES—ADULT & PEDIATRIC**4.3****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Impaled Objects:
 - ◆ Secure in place with a bulky dressing.
- ▶ Open chest wound:
 - ◆ Cover with an occlusive dressing, sealed on 3 sides, or use a commercial device; if the patient's condition deteriorates, remove the dressing momentarily, then reapply.
- ▶ Flail segment with paradoxical movement:
 - ◆ Use positive-pressure ventilation.
 - ◆ Do not splint the chest.
- ▶ Consider Air Medical Transport.

PARAMEDIC STANDING ORDERS**P**

- ▶ In presence of tension pneumothorax*, perform needle decompression.
- ▶ Consider pain management (refer to [Pain Management Protocol 2.12](#)).

*Tension pneumothorax is defined as respiratory distress in association with hypotension, with asymmetric or absent unilateral breath sounds, and possible tracheal deviation above the sternal notch.

TRAUMATIC BRAIN INJURY—ADULT & PEDIATRIC**4.4****BASIC STANDING ORDERS****B**

- ▶ Routine Patient Care.
- ▶ If breathing is inadequate, ventilate with 100% oxygen utilizing normal ventilation parameters, maintaining SpO₂ >90%.
- ▶ If EtCO₂ is available:
 - ◆ Ventilate to maintain an EtCO₂ of 35 – 40mmHg.
 - ◆ Do not hyperventilate unless clear signs of cerebral herniation are present.
 - ◆ If signs of cerebral herniation are present, ventilate at the following rates:
 - ◇ Adult: 20 bpm.
 - ◇ Child: 25 bpm.
 - ◇ Infant: 30 bpm.
 - ◇ Goal is to maintain EtCO₂ of 30 – 35mmHg.
- ▶ Discontinue hyperventilation when signs/symptoms improve.
- ▶ Assess and document pupillary response and Glasgow Coma Scale every 5 minutes.
- ▶ Check blood glucose; if hypoglycemic, see [Diabetic \(Hypoglycemia/Hyperglycemia\) Emergencies Protocol 2.4](#).

SIGNS OF HERNIATION (2 OR MORE)

- ▶ Extensor posturing, lack of motor response to noxious stimuli.
- ▶ Asymmetric, dilated, or non-reactive pupils.
- ▶ Decrease in the GCS >2 points from a patient's best score, in a patient with an initial GCS <9.

INTERMEDIATE STANDING ORDERS—ADULT**I**

- ▶ For adult, maintain systolic BP >90mmHg.

Traumatic Brain Injury continued on next page ➞

TRAUMATIC BRAIN INJURY—ADULT & PEDIATRIC continued**4.4***↔ Traumatic Brain Injury continued from previous page***PARAMEDIC STANDING ORDERS—ADULT**

- ▶ Consider intubation if GCS is <8.
 - ◆ If intubation is required, consider administration of lidocaine 1.5mg/kg IV prior to intubation.
- ▶ Consider sedation for patients that are combative and may cause further harm to self and others.
 - ◆ Haloperidol 5mg IM; may repeat every 5 minutes to a maximum dose of 10mg, **OR**
 - ◆ Lorazepam 1mg IV or 2mg IM; may repeat once in 5 minutes, **OR**
 - ◆ Midazolam 2.5mg IV/IM/IN; may repeat once in 5 minutes, **OR**
 - ◆ Diazepam 2mg IV; may repeat once in 5 minutes.

Antidotes:

- ▶ Flumazenil 0.2mg IV over 30 seconds.
 - ◆ Indication: adverse affects of benzodiazepines administered by EMS personnel.
- ▶ Diphenhydramine 25 – 50mg IV or 50mg IM.
 - ◆ Indication: for acute dystonic reaction to haloperidol.

PARAMEDIC STANDING ORDERS—PEDIATRIC

- P**
- ▶ Administer fluid bolus 20ml/kg; may repeat x2 (maximum total 60ml/kg) to maintain systolic BP:
 - ◆ 1 – 16 years: a minimum of 90mmHg.
 - ◆ <1 year: 65 – 90mmHg.
 - ▶ If intubation is required, consider administration of lidocaine 1.5mg/kg IV prior to intubation.
 - ▶ Administer fluid in a pediatric patient with normal systolic blood pressure and who has other signs of decreased perfusion including tachycardia, loss of peripheral pulses, and delayed capillary filling time of >2 seconds.
 - ▶ Consider sedation for patients that are combative and may cause further harm to self and others.
 - ◆ Lorazepam 0.05mg/kg IV/IM (maximum dose 1mg); may repeat once in 5 minutes, **OR**
 - ◆ Midazolam 0.05mg/kg IV/IM or 0.1mg/kg IN (maximum dose 3mg); may repeat once in 5 minutes, **OR**
 - ◆ Diazepam 0.1mg/kg IV (maximum dose 5mg); may repeat once in 5 minutes.

Antidotes: >1 year*: flumazenil 0.01mg/kg (up to 0.2mg) IV over 15 seconds.

May repeat every 1 minute up to 4 additional doses to a maximum dose of 0.05mg/kg IV or 1mg IV, whichever is lower.

- ◆ Indication: adverse affects of benzodiazepines administered by EMS personnel.

*The safety and efficacy of flumazenil in the reversal of conscious sedation in pediatric patients <1 year has not been established.

Resources: Prehospital Emergency Care Supplement to Jan/March 2007 Volume 12/Number 1.

Guidelines for prehospital management of traumatic brain injury, 2nd Ed., New York: Brain Trauma Foundation; 2007 Treatment: airway, ventilation, and oxygenation.

The New Hampshire Bureau of EMS has taken extreme caution to ensure all information is accurate and in accordance with professional standards in effect at the time of publication. These protocols MAY NOT BE altered or modified.

AIRWAY MANAGEMENT

5.0

ASSESSMENT

Each patient presents unique problems that cannot be fully outlined in any algorithm. As such, the provider must rely on thorough assessment techniques and consider each of the following:

1. **Airway Patency:** Assess for airway obstruction or risk of impending obstruction due to facial injuries, mass, foreign body, swelling, etc. Assess for presence/absence of gag reflex.
2. **Ventilatory Status:** Assess for adequate respiratory effort and impending fatigue/failure/apnea. Assess for accessory muscle use, tripod positioning, the ability of the patient to speak in full sentences. If available, assess end-tidal (ET) CO₂.
3. **Oxygenation:** Any oxygen saturation <90% represents relatively severe hypoxia and should be considered an important warning sign. In addition to oxygen saturation, assess for cyanosis.
4. **Airway Anatomy:** Before attempting airway maneuvers or endotracheal intubation, especially with the use of medications, assess patient anatomy to predict the probability of success and the need for backup device or technique.
 - ◆ First, assess for difficulty of mask seal. Patients with facial hair, facial fractures, obesity, extremes of age, and pathologically stiff lungs (COPD, ARDS, etc.) may require special mask techniques or alternatives.
 - ◆ Next, assess for difficulty of intubation. Patients with a short neck, the inability to open their mouth at least three finger widths (or other oral issues such as a large tongue or teeth), less than three finger-widths of thyromental distance (or a receding jaw), reduced atlanto-occipital movement (such as in suspected c-spine injury), obesity or evidence of obstruction (such as drooling or stridor) may be difficult to intubate.

DEVISE A PLAN

1. Each patient will present unique challenges to airway management. Therefore before any intervention is attempted, the provider should contemplate a plan of action that addresses the needs of the patient, and anticipates complications and how to manage them.
2. Airway management is a continuum of interventions, not an “all or none” treatment. Some patients may only need airway positioning or a nasal or oral airway to achieve adequate ventilation and oxygenation. Others will require more invasive procedures. The provider should choose the **least invasive** method that can be employed to achieve adequate ventilation and oxygenation.
3. Continually reassess the efficacy of the plan and change the plan of action as the patient’s needs dictate.
4. In children, a graded approach to airway management is recommended. Basic airway maneuvers and basic adjuncts followed by bag valve mask ventilation are usually effective.

BASIC SKILLS

Mastery of basic airway skills is paramount to the successful management of a patient with respiratory compromise.

- ▶ Ensure a patent airway with the use of:
 - ◆ Chin-lift/jaw-thrust.
 - ◆ Nasal airway.
 - ◆ Oral airway.
 - ◆ Suction.
 - ◆ Removal of foreign body.

Airway Management continued on next page ➡

AIRWAY MANAGEMENT continued**5.0**

↩ Airway Management continued from previous page

- ▶ Provide ventilation with a bag valve mask. Proper use of the BVM includes appropriate mask selection and positioning to ensure a good seal. If possible, utilization of the BVM is best accomplished with two people: one person uses both hands to seal the mask and position the airway, while the other person provides ventilation. If the patient has some respiratory effort, synchronize ventilations with the patient's own inhalation effort.

ADVANCED AIRWAY SKILLS

Only after basic procedures are deemed inappropriate or have proven to be inadequate should more advanced methods be used. Procedures documenting the use of each device/technique listed below are found elsewhere in this manual.

- ▶ **ETT:** The endotracheal tube was once considered the optimal method or “Gold Standard” for airway management during cardiac arrest. It is now clear, however, that the incidence of complications is unacceptably high when intubation is performed by inexperienced providers or monitoring of tube placement is inadequate. The optimal method for managing an airway will, therefore, vary based on provider experience, Emergency Medical Services (EMS) or healthcare system characteristics, and the patient's condition.
- ▶ **Bougie:** All providers who attempt ETT placement should become intimately familiar with the use of a Bougie. It is the device used most often by anesthesiologists and emergency physicians for helping guide placement when a difficult airway is encountered.
- ▶ **Alternate Devices:** Utilize an alternate device when the clinical indications for intubation still exist but conditions prevent intubation or previous attempts at ETT placement have failed. Each device has its own set of advantages/disadvantages and requires a unique insertion technique. Providers should have access to, and intimate knowledge of, at least one alternate device. Examples include:
 - ◆ King LT.
 - ◆ Combitube/EasyTube.
 - ◆ LMA.
- ▶ **CPAP:** Continuous Positive Airway Pressure (CPAP) has been shown to be effective in eliminating the need for intubation and in decreasing mortality in properly-selected patients with acute respiratory distress.

DOCUMENTATION

All efforts toward airway management should be clearly documented and, at the minimum, should include the following:

- ▶ Pre/post intervention vital signs including oxygen saturation as well as capnography (if available).
- ▶ Procedures performed/attempted, including number of failed attempts and who performed each attempt/procedure.
- ▶ Size of device(s) placed, depth of placement (if applicable).
- ▶ Placement confirmation: methods should include auscultation, condensation in the ETT, symmetrical chest wall rise, as well as at least one of the following—colorimetric EtCO₂, capnography, esophageal tube detector.

GUM ELASTIC BOUGIE/FLEXGUIDE**5.1****PARAMEDIC STANDING ORDERS****► INDICATIONS**

- ◆ Same as orotracheal intubation, but unable to fully visualize vocal cords.

► CONTRAINDICATIONS

- ◆ Use of a 6.0 or smaller ETT.

► PROCEDURE

1. Lubricate Bougie with water-based lubricant.
2. Using a laryngoscope (Macintosh or Miller blade) and standard ETT intubation techniques, attempt to visualize the vocal cords.
3. If the vocal cords are visualized, pass the Bougie through the cords while attempting to feel the signs of tracheal placement (see below). The Bougie is advanced until the black line on the Bougie reaches the lip line.
4. If the vocal cords are **not** visualized, pass the Bougie behind the epiglottis, guiding the tip of the Bougie anteriorly towards the trachea, and assess for signs of tracheal placement (see below).
5. With the laryngoscope still in place, have an assistant load the ETT over the Bougie and slide it to the level of the lip line.
6. Advance the ETT over the Bougie, rotating the ETT about 1/4 turn counterclockwise so that the bevel is oriented vertically as the ETT passes through the vocal cords. This maneuver allows the bevel to gently spread the arytenoids with a minimum of force, thus avoiding injury. If resistance is felt, withdraw the ETT, rotating it in a slightly more counterclockwise direction, and advance the tube again. Advance the tube to a lip-line of 24cm in an adult male, and 22cm in an adult female.
7. Holding the ETT firmly in place, remove the Bougie.
8. Remove the laryngoscope.
9. Inflate the cuff with 5 – 10ml of air.
10. Assess for adequate placement by auscultation (equal breath sounds over the chest and a lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest-wall rise, and at least one additional method: colorimetric end-tidal CO2 detector, capnography, or esophageal tube detector. (Note: to be accurate, the tube detector should be used prior to ventilation.) Assessment should be repeated often, especially after movement of the patient.
11. Secure the ETT.
12. Ongoing monitoring of ventilation status with waveform capnography is required for all patients.

► SIGNS OF TRACHEAL PLACEMENT

1. The Bougie is felt to stop or get “caught up” as the airway narrows and is unable to be advanced further. This is the most reliable sign of proper Bougie placement. If the Bougie enters the esophagus, it will continue to advance without resistance.
2. It may be possible to feel the tactile sensation of “clicking” as the Bougie tip is advanced downward over the rigid cartilaginous tracheal rings.
3. The Bougie can be felt to rotate as it enters a mainstem bronchus. Usually it is a clockwise rotation as the Bougie enters the right mainstem bronchus, but occasionally it will rotate counterclockwise if the Bougie enters the left mainstem bronchus.
4. If the patient is not paralyzed, he/she may cough.

P

NASOTRACHEAL INTUBATION**5.2****PARAMEDIC STANDING ORDERS****► INDICATIONS**

- ◆ Impending respiratory failure with intact gag reflex, or jaw is clenched and unable to be opened.

► CONTRAINDICATIONS

- ◆ Apnea.
- ◆ Nasal obstruction.
- ◆ Suspected basilar skull fracture.
- ◆ Patient fits on a pediatric length-based resuscitation tape (Broselow Tape).

► PROCEDURE

1. Pre-medicate nasal mucosa with 2% lidocaine jelly and nasal decongestant spray, if available.
2. Select the largest and least obstructed nostril and insert a lubricated nasal airway to help dilate the nasal passage.
3. Pre-oxygenate the patient.
4. Lubricate the ETT with water-based lubricant.
5. Remove the nasal airway and gently insert the tube, keeping the bevel toward the septum (a gentle rotation movement may be necessary at the turbinates).
6. Continue to advance the ETT while listening for maximum air movement.
7. At the point of maximum air movement, indicating proximity to the level of the glottis, gently and evenly advance the tube through the glottic opening on inspiration.
8. If resistance is encountered, the tube may have become lodged into the pyriform sinus and you may note tenting of the skin on either side of the thyroid cartilage. If this happens, slightly withdraw the ETT and rotate it toward the midline and attempt to advance tube again with the next inspiration.
9. Upon entering the trachea, the tube may cause the patient to cough, buck, strain, or gag. This is normal. Do not remove the ETT. Be prepared to control the cervical spine and the patient, and be alert for vomiting.
10. Placement depth should be from the nares to the tip of the tube: approximately 28cm in males and 26cm in females.
11. Inflate cuff with 5 – 10ml of air.
12. Assess for adequate placement by auscultation (equal breath sounds over the chest and a lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest-wall rise, and at least one additional method: colorimetric end-tidal CO₂ detector, capnography, or esophageal tube detector. (Note: to be accurate, the tube detector should be used prior to ventilation.)
13. Secure the ETT.
14. Document the ETT size, time, results, and placement depth (in cm at the level of the patient's nare) on the PCR. Also, include in documentation the procedures and devices used for confirmation of tube placement (e.g., bilateral, equal breath sounds and absence of epigastric sounds, end-tidal CO₂, etc.).
15. Ongoing monitoring of ventilation status with waveform capnography is required for all patients.

P

OROTRACHEAL INTUBATION**5.3****PARAMEDIC STANDING ORDERS****► INDICATIONS**

- ◆ Apnea/respiratory failure.
- ◆ Impending respiratory failure.
- ◆ Impaired gag reflex.

► CONTRAINDICATIONS

- ◆ Epiglottitis.
- ◆ Facial or neck injuries that prohibit visualization of airway anatomy—relative.

► PROCEDURE

1. Prepare all equipment and have suction ready.
2. Pre-oxygenate the patient, if time permits.
3. Open the patient's airway. While holding the laryngoscope in the left hand, insert the blade into the right side of the patient's mouth, sweeping the tongue to the left.
4. Use the blade to lift the tongue and the epiglottis, either directly with the straight (Miller) blade, or indirectly with the curved (Macintosh) blade.
5. Once the glottic opening is visualized, insert the tube through the vocal cords and continue to visualize while passing the cuff through the cords.
6. Remove the laryngoscope and then the stylet from the ETT.
7. Inflate the cuff with 5 – 10ml of air.
8. Assess for adequate placement by auscultation (equal breath sounds over the chest and a lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest-wall rise, and at least one additional method: colorimetric end-tidal CO₂ detector, capnography, or esophageal tube detector (Note: to be accurate, the tube detector should be used prior to ventilation).
9. Secure the tube.
10. Document the ETT size, time, results, and placement depth (in cm at the level of the patient's teeth or gums) on the PCR. Also, include in documentation the procedures and devices used for confirmation of tube placement (e.g., bilateral, equal breath sounds and absence of epigastric sounds, end-tidal CO₂, etc.).
11. Reassess tube placement frequently, especially after movement of the patient.
12. Ongoing monitoring of ventilation status with waveform capnography is required for all patients.

Note: If initial intubation attempt is unsuccessful or ETT placement cannot be verified, monitor oxygen saturations and end-tidal CO₂ and ventilate the patient with 100% oxygen via a BVM until ready to attempt re-intubation. If continued intubation attempts are unsuccessful or BVM ventilation is not adequate, consider placing alternative airway.

P

RAPID SEQUENCE INTUBATION (RSI)—ADULT ONLY**5.4****PARAMEDIC STANDING ORDERS****PREREQUISITES REQUIRED**

This procedure is only to be used by paramedics who are trained and credentialed to perform RSI by the NH Bureau of EMS. Either 2 RSI paramedics or 1 RSI paramedic and 1 RSI assistant must be present.

► **INDICATION**

- ◆ Immediate, severe airway compromise in the context of trauma, drug overdose, status epilepticus, etc., where respiratory arrest is imminent.

► **CONTRAINDICATION**

- ◆ Extensive recent burns or crush injuries >24 hours old.
- ◆ History of malignant hyperthermia.

► **PROCEDURE: THE SEVEN “Ps”**

1. **PREPARATION:** The time frame is limited, but the operator must have adequate Ambu Mask/oxygen sources, two laryngoscope handles, an assortment of blades, one working IV or IO, rescue airway devices, oxymetry and capnography monitoring, bulb-style tube checker.
2. **PREOXYGENATION:** When possible, use a non-rebreather mask for at least 3 minutes to effect nitrogen washout and establish an adequate oxygen reserve. In emergent cases, administer 8 vital capacity mask breaths with 100% oxygen.
3. **PREMEDICATION**
 - ◇ Consider lidocaine (1.5mg/kg) given 2 minutes before intubation to control Intracranial Pressure (ICP) in patients with possible head injury or CNS pathology (hypertensive crisis or hemorrhage).
 - ◇ Consider atropine for bradycardia at 0.5mg IV.
4. **PARALYZE**
 - ◇ Etomidate (0.3mg/kg IV; maximum 40mg). Apply cricoid pressure and maintain until ETT is placed, confirmed, and secured.
 - ◇ Succinylcholine (1.5mg/kg IV) immediately after etomidate (maximum 150mg).
5. **PASS THE TUBE**
 - ◇ Observe for fasciculations approximately 90 seconds after succinylcholine to indicate imminent paralysis.
 - ◇ After paralysis is achieved, follow procedure outlined in [Orotracheal Intubation Protocol 5.3](#) to place the ETT.
6. **PROOF OF PLACEMENT**—Assess for adequate placement by:
 - ◇ Auscultation (equal breath sounds over the chest and a lack of sounds over the epigastrium with ventilations).
 - ◇ Condensation in the ETT.
 - ◇ Symmetrical chest-wall rise, **AND**
 - ◇ At least one additional method: colorimetric end-tidal CO₂ detector, capnography, or esophageal tube detector (Note: to be accurate, the tube detector should be used prior to ventilation).

Reassess tube placement often, especially after movement of the patient.

Rapid Sequence Intubation continued on next page ➡

RAPID SEQUENCE INTUBATION (RSI)—ADULT ONLY continued**5.4**

↪ *Rapid Sequence Intubation continued from previous page*

7. POST INTUBATION CARE

◇ Sedation:

- ◆ Midazolam (0.05 – 0.10mg/kg IV), every 5 – 10 minutes as needed, **OR**
- ◆ Lorazepam 1 – 2mg IV every 15 minutes as needed for sedation (maximum: 10mg).

◇ Paralysis (via on-line Medical Control only):

- ◆ Vecuronium 0.1mg/kg IV, **OR**
- ◆ Rocuronium 1mg/kg IV.

Continuous capnography required for post intubation.

SUCTIONING (ADVANCED)

5.5

INDICATIONS

- ▶ Obstruction of the airway (secondary to secretions, blood, and/or any other substance) in a patient currently being assisted by an airway adjunct such as an endotracheal tube, Combitube, tracheostomy tube, or a cricothyrotomy tube.

PROCEDURE

1. Ensure the suction device is operable.
2. Pre-oxygenate the patient.
3. While maintaining aseptic technique, attach the suction catheter to the suction unit.
4. If applicable, remove ventilation device from the airway.
5. Insert the sterile end of the suction catheter into the tube without suction. Insert until resistance is met; pull back approximately 1 – 2cm.
6. Once the desired depth is met, apply suction by occluding the port of the suction catheter and slowly remove the catheter from the tube using a twisting motion.
7. Suctioning duration should not exceed 10 seconds.
8. Saline flush may be used to help loosen secretions and facilitate suctioning.
9. Re-attach the ventilation device and oxygenate the patient.

SUPRAGLOTTIC AIRWAY DEVICES

5.6

This protocol is intended for commercially available blind airway devices. Examples are Combitube, KING-LT-D, EasyTube, and LMA (Intermediate and Paramedic only).

Whereas each device will have its own idiosyncrasies, each provider must be trained, knowledgeable, and experienced with the manufacturer's recommendations for the particular device used.

INDICATIONS

BASIC/INTERMEDIATE STANDING ORDERS

B/I ▶ Cardiac arrest.

PARAMEDIC STANDING ORDERS

P ▶ When immediate airway control is desired in the absence of endotracheal intubation.
 ▶ Airway control in the absence of other effective methods (e.g., failed airway).
 ▶ Situations involving a difficult mask (BVM) fit.

CONTRAINDICATIONS

- ▶ The patient has an intact gag reflex or is not profoundly unconscious and may resist the insertion.
- ▶ Severe maxillofacial or oropharyngeal trauma.
- ▶ Any allergy or sensitivity to latex (the Combitube's pharyngeal balloon contains latex).
- ▶ Inappropriate sizing (follow the manufacturer's recommendations).
- ▶ The following contraindications apply to devices that are inserted into the esophagus.
 - ◆ The patient has known esophageal disease.
 - ◆ The patient has ingested a caustic substance.
 - ◆ The patient has burns involving the airway.

Note: Not all contraindications are absolute.

- ▶ PROCEDURE
 - ◆ Each device is unique; follow each manufacturer's specific recommendations for the proper procedure for insertion and use.
 - ◆ Assess for adequate placement by auscultation (equal breath sounds over the chest and a lack of sounds over the epigastrium with bagging).
 - ◆ In addition to auscultation, confirm tube placement by using either a colorimetric end-tidal CO₂ detector or capnography.
 - ◆ Secure the device.
 - ◆ Reassess tube placement frequently, especially after movement of the patient.
 - ◆ After tube placement, continuous waveform capnography is required for all paramedic level units.

TRACHEOSTOMY CARE—ADULT & PEDIATRIC**5.7****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Consult with the patient's caregivers for assistance.
- ▶ Assess tracheostomy tube: Look for possible causes of distress which may be easily correctable, such as a detached oxygen source.
- ▶ Assist ventilations using bag valve mask device with high-flow oxygen.
- ▶ If on a ventilator, remove the patient from the ventilator prior to using bag valve mask device as there may be a problem with the ventilator or oxygen source.
- ▶ Suction if unable to ventilate via tracheostomy or if respiratory distress continues. Use no more than 100mm/Hg suction pressure. If the tracheostomy tube has a cannula, remove it prior to suctioning. Determine proper suction catheter length by measuring the obturator. If the obturator is unavailable, insert the suction catheter approximately 2 – 3 inches into the tracheostomy tube. **Do not use force!** 2 – 3ml saline flush may be used to help loosen secretions.
- ▶ If the patient remains in severe distress, continue ventilation attempts using bag valve mask with high-flow oxygen via the tracheostomy. Refer to [Asthma Protocol 2.2](#), if indicated.
- ▶ If the patient's breathing is adequate but exhibits continued signs of respiratory distress, administer high-flow oxygen via non-rebreather mask or blow-by, as tolerated over the tracheostomy.

PARAMEDIC STANDING ORDERS**P**

- ▶ If the patient continues in severe respiratory distress:
 - ◆ Remove tube and attempt bag valve mask ventilation.
- ▶ If another tube is available from caregivers, insert into stoma and resume ventilation (a standard endotracheal tube may be used or the used tracheostomy tube, after being cleaned).
 - ◆ If unable to replace tube with another tracheostomy tube or endotracheal tube, assist ventilations with bag valve mask and high-flow oxygen.

ABUSE AND NEGLECT—CHILD, ELDER, INCAPACITATED ADULTS, OR OTHER VULNERABLE INDIVIDUALS **6.0**

PURPOSE

To provide the process for the identification, assessment, management, and reporting of patients who are suspected of having been abused, neglected, and/or exploited. This includes physical, sexual, or emotional abuse, neglectful acts or omissions by self or others, and/or the illegal use of an incapacitated adult's person or property for profit or advantage.

PROCEDURE FOR ASSESSMENT

- ▶ Treat and document assessment findings using the appropriate medical treatment protocol without causing undue emotional trauma for non-emergent injuries.
- ▶ Whenever possible, secure and bag (in paper) any clothing or items that might be needed as evidence.
- ▶ The interview with the patient should be conducted calmly, respectfully, and privately, while closely observing for:
 - ◆ Mental status.
 - ◆ Inappropriate fears or atypical reaction to situation.
 - ◆ Avoidance behaviors.
 - ◆ Inappropriate interaction with caregiver or parent.
- ▶ Do not interrogate, accuse, or otherwise address specifics of abuse or neglect to patient or caregiver.
- ▶ Obtain pertinent history relating to presenting injuries or illness.
- ▶ Carefully, and specifically, document verbatim any patient statements of instances of rough handling, sexual abuse, alcohol/drug abuse, verbal or emotional abuse, isolation or confinement, misuse of property, threats, and gross neglect such as restriction of fluids, food, medications, or hygienic care.
- ▶ Note problems with living conditions and environment.
- ▶ Note any of the following potential indicators of an abusive or neglectful circumstance or environment:
 - ◆ Unsolicited history provided by the patient.
 - ◆ Delay in seeking care for injury or illness.
 - ◆ Injury inconsistent with history provided, developmental abilities, or mobility potential.
 - ◆ Conflicting reports of injury from the patient and caregiver.
 - ◆ Patient unable, or unwilling, to describe mechanism of injury.
 - ◆ Injuries in unusual locations, e.g., genital area.
 - ◆ Multiple fractures, bruises or other injuries in various stages of healing.
 - ◆ Scald burns with demarcated immersion lines without splash marks.
 - ◆ Scald burns involving anterior or posterior half of extremity.
 - ◆ Scald burns involving buttocks or genitalia.
 - ◆ Cigarette burns, rope burns, or other identifiable patterned markings.
 - ◆ Patient confined to restricted space or position.
 - ◆ Pregnancy or presence of sexually transmitted disease in a child or vulnerable adult.

Abuse and Neglect continued on next page ➞

ABUSE AND NEGLECT—CHILD, ELDER, INCAPACITATED ADULTS, 6.0 OR OTHER VULNERABLE INDIVIDUALS *continued*

↪ *Abuse and Neglect continued from previous page*

SPECIAL CONSIDERATIONS

- ▶ To assure the safety of EMS personnel in suspect situations, law enforcement may be contacted at the discretion of the EMS provider.
- ▶ According to laws in the State of NH, any and all cases of suspected abuse, neglect, or exploitation must be reported. This applies even in cases when the patient is not transported. If a parent/guardian refuses treatment of a minor child or an incapacitated adult whom you feel needs medical attention, contact law enforcement immediately.
- ▶ Careful and specific documentation is vital because the “story” often changes as the investigation proceeds.

REPORTING PROCEDURES

CHILD ABUSE

Responsibility for reporting child abuse and protection from liability for such reporting is established by the NH Child Protection Act, Chapter 169-C. Any person who has reason to suspect a child has been abused or neglected, should contact NH DCYF by telephone from 8:00 AM to 4:30 PM, Monday through Friday, using the **Child Abuse Report Line, 800-894-5533 or (603) 271-6556**. For urgent child abuse or neglect that is discovered during DCYF non-work hours (between 4:30 PM and 8:00 AM or on weekends and holidays), call your local police department. Follow up with a verbal report to the Child Abuse Report Line during DCYF working hours. Informing hospital personnel or involving law enforcement on the scene does not fulfill legal reporting responsibilities in accordance with this RSA. Do not send reports of suspected child abuse by email.

ABUSE TO ELDERS AND INCAPACITATED ADULTS

(Reference: NH Elderly and Adult Services 161-F:42 & F:46) Any person suspecting or believing in good faith that an adult who is, or who is suspected to be incapacitated, has been subjected to abuse, neglect, self-neglect or exploitation, or is living in hazardous conditions, shall report or cause a report to be made.

- ▶ For individuals living in an independent living situation, such as their own home or apartment, the home or apartment of friends or relatives, a boarding home, or if there is no fixed address—the report should be made to the local Bureau of Elderly & Adult Services (BEAS) district office.
- ▶ For incapacitated adults who are residents of nursing or assisted living facilities, the report should be made to the Office of the Long-Term Care Ombudsman (800-422-5640) or 603-271-4375.
- ▶ For individuals who live or participate in homes/programs administered by, or affiliated with, the Bureau of Behavioral Health or the Bureau of Developmental Services, or who were receiving care in a community hospital or rehabilitation center during the suspected incident(s)—the report should be made to Bureau of Elderly and Adult Services (800-949-0470) or 603-271-7014.

Note: As with child abuse reporting above, elder abuse reports may be made between 8:00 AM and 4:30 PM Monday – Friday. For urgent cases of abuse or neglect discovered during BEAS non-work hours, call your local police department.

Note: Nothing contained herein shall be construed to mean that any minor of sound mind is legally incapable of consenting to medical treatment provided that such minor is of sufficient maturity to understand the nature of such treatment and the consequences thereof.

ADVANCED SPINAL ASSESSMENT

6.1

PURPOSE: The intent of this protocol is to decrease injury and discomfort to patients caused by unnecessary spinal immobilization while insuring that no spinal injuries are missed. It will assist in the identification of patients who do not require spinal immobilization **OR** who may have spinal immobilization devices removed in the field. Determination that immobilization devices should be used or removed should be made by the highest level provider.

All patients that have a mechanism of injury that could cause a spinal injury, including high risk or questionable injury mechanisms, should have a s spinal assessment.

HIGH RISK MECHANISMS INCLUDE:

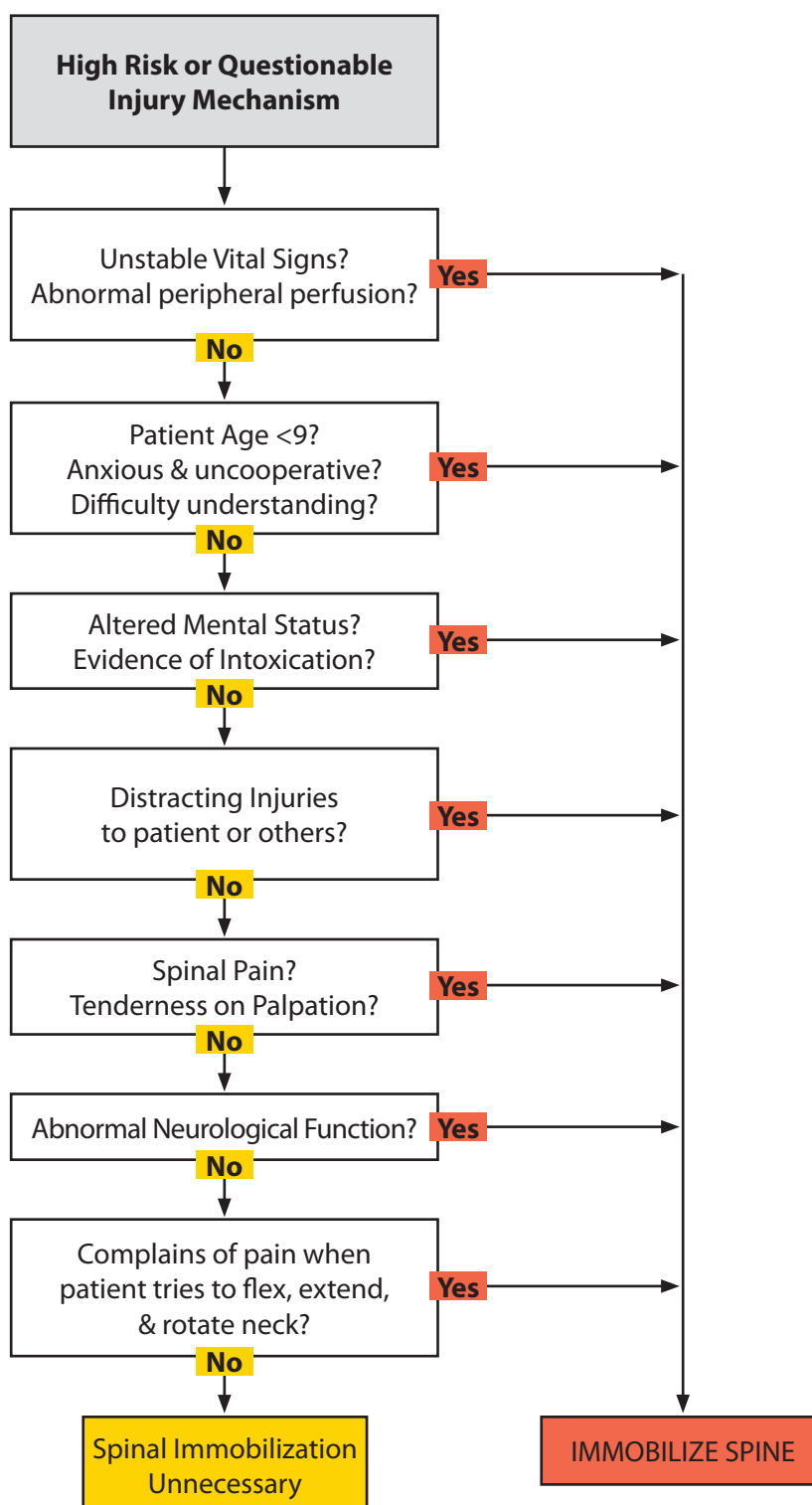
- ▶ Motor vehicle crash >60 mph, rollover, ejection (low-speed, rear-end can usually be excluded).
- ▶ Falls >3 feet/5 stairs. Patients >65 years or with a high-risk history such as osteoporosis should be given extra consideration.
- ▶ Axial load to head/neck (e.g., diving accident, heavy object falling onto head, contact sports).
- ▶ Significant injury or mechanism of injury above the clavicle.
- ▶ Injuries involving motorized recreational vehicles.
- ▶ Bicycle struck/collision.

SPINAL IMMOBILIZATION IS NOT REQUIRED WHEN ALL OF THE FOLLOWING CONDITIONS APPLY:

- ▶ Stable Patient with normal peripheral perfusion signs.
- ▶ Reliable Patient:
 - ◆ ≥9 years.
 - ◆ Calm and cooperative.
 - ◆ No altered mental status (e.g., dementia, preexisting brain injury, developmental delay, psychosis, etc.).
 - ◆ No evidence of alcohol or drug intoxication.
 - ◆ No acute stress reaction.
 - ◆ Not distracted by circumstances or injuries to self or others.
 - ◆ No communication barriers (e.g., deafness, language, etc.).
- ▶ Patient denies spinal pain and no spinal tenderness is elicited with palpation.
- ▶ Normal neurological function in all extremities:
 - ◆ No numbness or tingling (paresthesia).
 - ◆ Motor strength is full and symmetrical:
 - ◇ Finger abduction/adduction.
 - ◇ Finger/wrist flexion/extension.
 - ◇ Foot/great toe extension/flexion.
 - ◆ Soft/sharp touch discrimination is present.
- ▶ Cervical flexion, extension and rotation:
 - ◆ No pain.
 - ◆ Patient does not require assistance.

If the patient fails to meet **ANY** of the conditions, or assessment cannot be completed, then the patient should be immobilized.

Advanced Spinal Assessment continued on next page ➡

ADVANCED SPINAL ASSESSMENT *continued***6.1***↩ Advanced Spinal Assessment continued from previous page*

BLOODBORNE/AIRBORNE PATHOGENS

6.2

BLOODBORNE PATHOGENS

Emergency Medical Services personnel should assume that all bodily fluids and tissues are potentially infectious with bloodborne pathogens, and must protect themselves accordingly by use of appropriate Body Substance Isolation (BSI) and approved procedures.

Transmission of bloodborne pathogens has been shown to occur when infected blood or Other Potentially Infectious Materials ("OPIM") enter another individual's body through skin, mucous membrane, or parenteral contact.

BODY SUBSTANCE ISOLATION (BSI) PROCEDURES

- ▶ BSI procedures include using protective barriers (such as gloves, masks, goggles, etc.), thorough hand washing, and proper use and disposal of needles and other sharp instruments.
- ▶ Centers for Disease Control and Prevention guidelines for hand hygiene include:
 - ◆ When hands are visibly dirty, contaminated, or soiled, wash with non-antimicrobial or antimicrobial soap and water. If hands are not visibly soiled, use an alcohol-based handrub for routinely decontaminating hands.
- ▶ Personnel with any open wounds should refrain from all direct patient care and from handling patient-care equipment, unless they can ensure complete isolation of these lesions and protection against seepage.
- ▶ In addition, all personnel who are potentially at risk of coming into contact with blood or OPIM are encouraged to obtain appropriate vaccines to decrease the likelihood of transmission.

PROCEDURES AND CONSIDERATIONS

Personnel who have had a bloodborne pathogen exposure should immediately flush the exposed area or wash with an approved solution. The exposed area should then be covered with a sterile dressing. As soon as possible, or after transfer of patient care, the EMT should thoroughly cleanse the exposed site and obtain a medical evaluation by the medical advisor as dictated by their department's Exposure Control Plan and/or Workers Compensation Policy.

AIRBORNE PATHOGENS

Emergency Medical Services personnel should assume that all patients who present with respiratory distress, coughing, a fever, or a rash are potentially infectious with airborne pathogens, and must protect themselves accordingly by use of appropriate Airborne Personal Protective Equipment (APPE), Body Substance Isolation (BSI), and approved procedures.

AIRBORNE PERSONAL PROTECTIVE EQUIPMENT (APPE)

- ▶ The preferred APPE for EMS personnel is an N95 mask, to be worn whenever a patient is suspected of having any communicable respiratory disease.
- ▶ The N95 mask should be of the proper size for each individual provider, having been previously determined through a fit-test procedure.
- ▶ A surgical mask should also be placed on suspect patients, if tolerated. If oxygen therapy is indicated, a surgical mask should be placed over an oxygen mask to block pathogen release. This will require close monitoring of the patient's respiratory status and effort.

Bloodborne/Airborne Pathogens continued on next page ➞

BLOODBORNE/AIRBORNE PATHOGENS *continued***6.2**

↪ *Bloodborne/Airborne Pathogens from previous page*

PROCEDURES AND CONSIDERATIONS

- ▶ Early notification to the receiving hospital should be made such that the receiving hospital may enact its respective airborne pathogen procedures.
- ▶ Limit the number of personnel in contact with suspected patients to reduce the potential of exposure to others.
- ▶ Limit procedures that may result in the spread of the suspected pathogen, e.g., nebulizer treatments.
- ▶ Utilize additional HEPA filtration on equipment, e.g., BVM or suction.
- ▶ Exchange of fresh air into the patient compartment is recommended during transport of a patient with a suspected airborne pathogen.
- ▶ EMTs who believe they have been exposed to an airborne pathogen may proceed as above in getting timely medical care. The Patient Care Report enables hospital infection control staff to contact at-risk EMS personnel, should that patient be found to have a potential airborne pathogen such as tuberculosis, *Neisseria meningitis*, SARS, etc.

DECONTAMINATION AND FOLLOW-UP

- ▶ In addition to accepted procedures for cleaning and disinfecting surfaces and equipment with approved solutions, and for the proper disposal of contaminated items, the use of fresh air ventilation should be incorporated (open all doors and windows to allow fresh air after arrival at the hospital).
- ▶ All personnel in contact with the patient should wash their hands thoroughly with warm water and an approved hand-cleansing solution. When soap and water are not immediately available, a hand sanitizer containing 60% isopropyl alcohol is recommended as an interim step until thorough hand washing is possible.
- ▶ Ambulances equipped with airborne pathogen filtration systems should be cleaned and maintained in accordance with the manufacturer's guidelines.
- ▶ As soon as possible following all suspected bloodborne or airborne exposures, the EMT should complete all appropriate documentation as identified in their department's specific policies, including New Hampshire Emergency Response/Public Safety Worker Incident Report Form.

CRIME SCENE/PRESERVATION OF EVIDENCE**6.3**

If you believe a crime has been committed, immediately contact law enforcement.

Protect yourself and other EMS personnel. You will not be held liable for failing to act if a scene is not safe to enter. Once a crime scene is deemed safe by law enforcement, initiate patient contact and medical care.

- ▶ Do not touch or move anything at a crime scene unless it is necessary to do so for patient care.
- ▶ Have all EMS providers use the same path of entry and exit.
- ▶ Do not walk through fluids on the floor.
- ▶ Observe and document original location of items moved by crew.
- ▶ When removing patient clothing, leave it intact as much as possible.
- ▶ Do not cut through clothing holes made by gunshot or stabbing.
- ▶ If you remove any items from the scene, such as impaled objects or medication bottles, document your actions and advise investigating officers.
- ▶ Do not sacrifice patient care to preserve evidence.
- ▶ Consider requesting a law enforcement officer to accompany the patient in the ambulance to the hospital.
- ▶ Document statements made by the patient or bystanders on the EMS patient care report.
- ▶ Inform staff at the receiving hospital that this is a “crime scene” patient.
- ▶ If the patient is obviously dead, contact Medical Control for directions to withhold resuscitative measures, and do not touch body.
- ▶ For traffic accidents, preserve the scene by parking away from skid marks and debris.

DO NOT RESUSCITATE (DNR) ORDERS & ADVANCED DIRECTIVES **6.4**

RECOGNIZED DNR OPTIONS IN NEW HAMPSHIRE

The following are the only recognized DNR options in New Hampshire.

1. “P-DNR” (Portable DNR) order: statewide recognized document of any color and/or a “P-DNR” (Portable DNR) wallet card signed by a physician or advanced registered nurse practitioner (ARNP).
2. Medical orders form documenting the patient’s name and signed by a physician or ARNP and that clearly documents the DNR order.
3. DNR bracelet or necklace worn by a patient, inscribed with the patient’s name, date of birth (in numerical form), and “NH DNR” or “NH Do Not Resuscitate.”

Note: Under state law, a DNR bracelet or necklace may only be issued to patients who have a valid DNR order.

FOR PATIENTS PRESENT OR RESIDING IN A HEALTHCARE FACILITY, THE FOLLOWING IS ALSO ACCEPTABLE

- ▶ A DNR order written by a physician or ARNP at a nursing home, hospital, or other healthcare facility issued in accordance with the healthcare facility’s policies and procedures.

FOR PATIENTS BEING TRANSFERRED

- ▶ All forms of DNR identified above remain valid during a transfer from one healthcare facility to another.

DNR ORDERS FROM OTHER STATES

- ▶ EMTs should honor any DNR order that is substantially similar to the NH statutory form. Medical orders from other states must be signed by a physician or ARNP that clearly documents a DNR order.

Note: Neither a Living Will nor a Durable Power of Attorney for Healthcare (DPOAH) form is as effective as a valid DNR order. A patient’s healthcare agent under a DPOAH may not direct EMTs to withhold resuscitation in the absence of a valid DNR Order.

REVOCATION OF A DNR ORDER

The following are the only recognized methods for canceling a DNR order:

PATIENTS RESIDING AT HOME

- ▶ A patient residing at home may revoke a DNR order by destroying the DNR order and removing any DNR bracelet or necklace.
- ▶ If the patient lacks the capacity to make health care decisions, the patient’s healthcare agent (under a DPOAH—see below) may revoke the DNR order by destroying the DNR order and removing any DNR bracelet or necklace.

PATIENTS RESIDING IN A HEALTHCARE FACILITY

- ▶ A patient in a healthcare facility may revoke his or her previous consent to a DNR order by making a written, oral, or other act of communication to the attending physician or ARNP or other professional staff of the healthcare facility.
- ▶ For a patient who lacks the capacity to make health care decisions, the patient’s healthcare agent (under a DPOAH—see below) may revoke a DNR order by notifying the attending physician or ARNP in writing or, if a witness over the age of 18 is present, orally.

Do Not Resuscitate (DNR) Orders and Advanced Directives continued on next page ➞

DO NOT RESUSCITATE (DNR) ORDERS & ADVANCED DIRECTIVES continued

6.4

↪ *Do Not Resuscitate (DNR) Orders and Advanced Directives continued from previous page*

PROCEDURES NOT TO BE PERFORMED

If there is a valid DNR order and the patient is in actual cardiac or respiratory arrest, or cardiac or respiratory arrest is imminent, EMTs should withhold the following procedures:

- ▶ Do not do chest compressions or actively assist ventilations via BVM.
- ▶ Do not intubate or use advanced airways.
- ▶ Do not defibrillate.
- ▶ Do not administer resuscitation drugs.
- ▶ Do not treat ventricular fibrillation, pulseless ventricular tachycardia, pulseless electrical activity, or asystole.

PROCEDURES THAT MAY BE PERFORMED

If the patient is not in imminent cardiac or respiratory arrest, and has a valid DNR order appropriate medical treatment for all injuries, pain, difficult or insufficient breathing, hemorrhage, and/or other medical conditions must be provided.

EMTs **MAY** perform any other measures, including comfort measures, for these patients, within their scope of practice per the usual treatment guidelines, including but not limited to:

- ▶ Oxygen therapy via nasal cannula, non-rebreather mask, and/or CPAP.
- ▶ Medications for treatment of pain, respiratory distress, dysrhythmias (except for those identified above).
- ▶ Intravenous fluid therapy for medication access.
- ▶ Mouth or airway suctioning.

NH STATUTORY DNR FORM

Do Not Resuscitate Order.

As attending physician or ARNP of [patient's name here] and as a licensed physician or advanced registered nurse practitioner, I order that this person **SHALL NOT BE RESUSCITATED** in the event of cardiac or respiratory arrest.

This order has been discussed with [patient's name here] (or, if applicable, with his/her agent,) [name of DPOAH], who has given consent as evidenced by his/her signature below.

Attending physician or ARNP Name _____

Attending physician or ARNP Signature _____

Address _____

Patient Signature _____

Address _____

Agent Signature (if applicable) _____

Address _____

Do Not Resuscitate (DNR) Orders and Advanced Directives continued on next page ↪

DO NOT RESUSCITATE (DNR) ORDERS & ADVANCED DIRECTIVES continued

6.4

↪ *Do Not Resuscitate (DNR) Orders and Advanced Directives continued from previous page*

DURABLE POWER OF ATTORNEY FOR HEALTHCARE

Under a Durable Power of Attorney for Healthcare, a patient may designate another person—a healthcare agent—to make health care decisions for the patient.

- ▶ Before a healthcare agent may make decisions on behalf of the patient, the patient's attending physician or ARNP must certify in writing that the patient lacks capacity (this certification is filed within the patient's medical record).
- ▶ A patient who, in the clinical judgment of the EMS provider, retains the capacity to make health care decisions, shall direct his or her health care, even where a healthcare agent has been appointed. That is, EMS providers shall follow the wishes of the patient rather than the healthcare agent unless the patient lacks the capacity to make health care decisions.
- ▶ The healthcare agent must make an informed decision; thus, it is generally advisable for EMTs to perform at least a preliminary assessment and inform the healthcare agent of the options for caring for the patient.

Note: In the absence of a valid DNR order, a healthcare agent does not have the authority to direct prehospital providers to withhold resuscitation in the event of a cardiac arrest.

LIVING WILL

A living will is intended to address patients who have been admitted to a healthcare facility. Living wills will rarely, if ever, have application in the prehospital environment.

IMMUNIZATION

6.5

PREREQUISITES REQUIRED

This procedure is only to be used by paramedics who are trained and credentialed to perform immunization by the NH Bureau of EMS and the NH Medical Control Board.

INDICATIONS: Prehospital providers may be called upon to provide certain immunizations as necessary to assist state health officials in the event of a public health crisis, or under the written order of a physician.

NON-PATIENT SPECIFIC ORDERS

A non-patient specific order authorizes paramedics to administer specified immunization agents or anaphylaxis treatment agents for a specified period of time to an entire group of persons such as school children, employees, patients of a nursing home, etc.

- ▶ Some examples of non-patient specific orders are:
 - ◆ Administer influenza vaccine 0.5ml IM to all incoming freshmen students at X College who are eligible per protocol.
 - ◆ Administer influenza vaccine 0.5ml IM to all employees of X organization who request it and who are eligible by protocol.
 - ◆ Administer influenza vaccine 0.5ml IM to all X town residents who request it and who are eligible by protocol.
 - ◆ Administer Hepatitis B series to all employees of X organization eligible per protocol.

IMMUNIZING AGENTS

Many of the immunizations listed in the Centers for Disease Control and Prevention (CDC) guidelines fall under this protocol. The list of authorized immunizing agents differs for adults and children. Adults are persons who are 18 years of age or older; children are persons under 18 years of age.

- ▶ Immunizing agents for adults
 - ◆ Diphtheria.
 - ◆ Hepatitis A.
 - ◆ Hepatitis B.
 - ◆ Inactivated Polio.
 - ◆ Influenza.
 - ◆ Measles.
 - ◆ Meningococcus.
 - ◆ Mumps.
 - ◆ Pneumococcus.
 - ◆ Rubella.
 - ◆ Smallpox vaccine.
 - ◆ Tetanus.
 - ◆ Varicella.

Immunization continued on next page ➞

IMMUNIZATION continued**6.5**

↩ Immunization continued from previous page

- ▶ Immunizing agents for children:
 - ◆ Acellular Pertussis.
 - ◆ Diphtheria.
 - ◆ Haemophilus Influenza Type b (HIB).
 - ◆ Hepatitis A.
 - ◆ Hepatitis B.
 - ◆ Inactivated Polio.
 - ◆ Influenza.
 - ◆ Measles.
 - ◆ Meningococcus.
 - ◆ Mumps.
 - ◆ Pneumococcal Conjugate.
 - ◆ Rubella.
 - ◆ Tetanus.
 - ◆ Varicella.

Note: The Medical Control Board may add immunizing agents in accordance with the recommendations of the Centers for Disease Control and Prevention and the New Hampshire Department of Health and Human Services.

ADMINISTRATION OF IMMUNIZATIONS

The non-patient specific standing order and protocol must be authorized by a physician.

EPIDEMICS

Any paramedic may administer any immunizing agent that is authorized by a non-patient specific standing order and protocol as part of an immunization program when the immunization program is instituted as a result of an epidemic declared by public health officials.

PROTOCOL REQUIREMENTS

- ▶ Ensure that the potential immunization recipient is assessed for contraindications to immunizations.
- ▶ Inform each potential immunization recipient of the potential side effects and adverse reactions, orally and in writing, prior to immunization, and inform each potential immunization recipient, in writing, of the appropriate course of action in the event of an untoward or adverse event. Vaccine Information Statements (VIS), developed by the Centers for Disease Control and Prevention (CDC), United States Department of Health and Human Services are recommended for this use.
- ▶ Obtain consent for the immunization from the potential recipient, or from a person legally responsible in the case of a minor or otherwise incapable person, before the immunization is administered.
- ▶ In cases of minors and persons incapable of personally consenting to immunization, consent may be gained by informing the legally responsible person of the potential side effects and adverse reactions in writing and obtaining a written consent prior to administering the immunization.
- ▶ Provide to each legally responsible immunization recipient, a signed certificate of immunization noting the recipient's name, date of immunization, address, immunization agent, administering paramedic, immunizing agent, manufacturer and lot number, and recommendations for future immunizations.

Immunization continued on next page ➡

IMMUNIZATION *continued***6.5**

↪ *Immunization continued from previous page*

- ▶ Have available on-site, agents to treat anaphylaxis including, but not limited to, epinephrine and necessary needles and syringes.
- ▶ Report all adverse immunization outcomes to the Vaccine Adverse Event Reporting System (VAERS) using the appropriate form from the Centers for Disease Control and Prevention, United States Department of Health and Human Services.
- ▶ Ensure that the record of all persons immunized includes: the non-patient specific standing order and protocol utilized, recipient's name, date, address of immunization site, immunizing agent, manufacturer and lot number of administered vaccine(s), and recommendations for future immunizations.
- ▶ For the administration of the influenza vaccine to adults only, it is acceptable to maintain a log of the names, addresses, and phone numbers of all adult patients immunized with the influenza vaccine under non-patient specific orders, in a dated file.
- ▶ Ensure that a record is kept of all potential recipients, noting those who refused to be immunized.

INTRAOSSEOUS ACCESS

6.6

PROVIDER LEVEL APPROVED

- ▶ Paramedic
- ▶ Intermediate, adult only, commercial intraosseous introduction device (e.g., EZ-IO)

DEFINITION

Intraosseous insertion establishes access in a patient where venous access cannot be rapidly obtained. The bone marrow space serves as a “noncollapsible vein” and provides access to the general circulation for the administration of fluids and resuscitation drugs. This protocol applies to all appropriate IO insertion sites.

INDICATION

- ▶ **Intermediate:** Adult patients in shock or cardiac arrest.
- ▶ **Paramedic:** Drug or fluid resuscitation of a patient in need of immediate life-saving intervention and unable to obtain peripheral IV access.

CONTRAINDICATIONS

- ▶ Placement in or distal to a fractured bone.
- ▶ Placement at a burn or infected site.

COMPLICATIONS

- ▶ Infusion rate may not be adequate for resuscitation of ongoing hemorrhage or severe shock, extravasation of fluid, fat embolism, and osteomyelitis (rare).

EQUIPMENT & PROCEDURE

- ▶ Equipment:
 - ◆ 15 – 19 gauge bone marrow needle or FDA-approved commercial intraosseous infusion device.
 - ◆ Povidone-iodine solution and gloves.
 - ◆ Primed IV tubing, stopcock, IV solution.
 - ◆ 10ml syringe with 0.9% NaCl (normal saline).
 - ◆ Pressure pump/bag or 60ml syringe for volume infusion or slow push.
 - ◆ 1 vial 1% or 2% lidocaine (Paramedic only).
 - ◆ 5ml syringe.
- ▶ Procedure:
 - ◆ When using an FDA-approved commercial IO device, follow manufacturer’s instructions.
 - ◆ Place the patient in a supine position.
 - ◆ Identify the bony landmarks. The site of choice for pediatric patients is the proximal tibia, 1 – 2cm medially and 1 – 2cm distal to the tibial tuberosity on the anteromedial surface.
 - ◆ Prep the site with povidone-iodine solution.
 - ◆ When accessing bone marrow, direct and insert the needle (with the stylet in place) perpendicular to the bone or angled away from the joint, avoiding the epiphyseal plate. Insert with pressure and a boring or screwing motion until penetration into the marrow, which is marked by a sudden lack of resistance; then remove the stylet.

Intraosseous Access continued on next page ➡

INTRAOSSEOUS ACCESS *continued***6.6**

↪ *Intraosseous Access continued from previous page*

- ◆ Needle is appropriately placed if the following are present:
 - ◇ Aspiration with syringe yields blood with marrow particulate matter.
 - ◇ Infusion of saline does not result in infiltration at the site.
 - ◇ Needle stands without support.
- ◆ Attach IV tubing, with or without stopcock.
- ◆ If the patient experiences pain during infusion, inject lidocaine into the marrow cavity.
 - ◇ Adult: 2 – 5ml (20 – 50mg) 1% or 2% lidocaine (Paramedic only).
 - ◇ Pediatric: 0.5mg/kg 1% or 2% lidocaine (Paramedic only).
- ◆ Flow rates to gravity may be unacceptably slow. Consider placing IV solution in a pressure bag inflated to 300 torr or “pushing” the fluid bolus with a syringe and three-way stopcock.
- ◆ Stabilize needle on both sides with sterile gauze and secure with tape (avoid tension on needle).

ON-SCENE MEDICAL PERSONNEL**6.7**

The medical care provided at the scene is the responsibility of the highest level of EMS provider who has responded by usual dispatch systems to that scene. Passersby who stop to help, even though possibly more highly trained than the system providers, may NOT assume responsibility (except as outlined below) but may be allowed to help in care at the discretion of the lead EMS provider and assuming they have proof of licensure.

When an EMS provider, under Medical Control (on- or off-line), arrives at the scene of an emergency, the provider acts as the agent of Medical Control, i.e., the on-line physician is ultimately responsible.

Any health care provider (MD, PA, RN, nurse midwife, non-NH licensed EMS provider, etc.) who is not an active member of the responding EMS unit, and who is either at the scene at the time of the EMS unit's arrival or arrives after an EMS unit has initiated care, and who desires to continue to participate, should be put in touch with the on-line Medical Control physician.

At no time should an EMS provider provide care outside of their scope of training and/or protocols.

PEDIATRIC RESTRAINT FOR TRANSPORTATION

6.8

PATIENT TRANSPORT

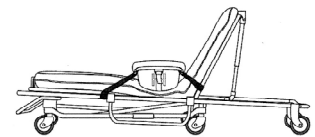
Note: NH RSA 265:107-a requires all children to be properly restrained when riding in a vehicle. An ill or injured child must be restrained in a manner that minimizes injury in an ambulance crash. The method of restraint will be determined by various circumstances including the child's medical condition and weight.

1. Convertible car seat with two points of belt attachment to the cot (front and back) is considered a best practice for pediatric patients who can tolerate a semi-upright position.
 - ◆ Position safety seat on cot facing foot-end with backrest fully elevated.
 - ◆ Consider removing mattress.
 - ◆ Secure safety seat with 2 pairs of belts at both forward and rear points of seat.
 - ◆ Place shoulder straps of the harness through slots just below child's shoulders and fasten snugly to child.
 - ◆ Follow manufacturer's guidelines regarding child's weight.



Note: Non-convertible safety seats cannot be secured safely to cot. If child's personal safety seat is not a convertible seat, it cannot be used on the cot.

2. Car bed with both a front and rear belt path (example: Cosco Dream Ride SE)
 - ◆ Position car bed so child lies perpendicular to cot, keeping child's head toward center of patient compartment.
 - ◆ Fully raise backrest and anchor car bed to cot with 2 belts, utilizing 4 loop straps supplied with car bed.
 - ◆ Used for infants who cannot tolerate a semi-upright position or who must lie flat.
 - ◆ Only appropriate for infants from 5 – 20 lbs.
3. Restraint device with 5-point harness (examples: Ferno Pedi-Mate, SafeGuard Transport)
 - ◆ Attach securely to cot utilizing upper back strap behind cot and lower straps around cot's frame.
 - ◆ 5-point harness must rest snugly against child.
 - ◆ Head portion of cot may be adjusted to any angle for comfort of child.
 - ◆ Pedi-Mate fits children weighing 10 – 40 lbs. SafeGuard Transport fits children weighing 22 – 100 lbs.
4. Isolette restraint device with 3-point harness (example: International BioMed Papoose)
 - ◆ Harness should rest securely on child with no blanket or sheet between harness and child.
 - ◆ Attach to isolette tray at four points.
 - ◆ Additional soft Velcro straps may be added for lateral security.
 - ◆ Blanket or towels may be used to provide stabilization of the head.
5. Belting child directly to cot in manner to prevent ramping or sliding in a crash
 - ◆ Loop narrow belts over each shoulder and under arms, attaching to a non-sliding cot member.
 - ◆ Use soft, sliding, or breakaway connector to hold shoulder straps together on chest.
 - ◆ Anchor belt to non-sliding cot member and route over thighs, not around waist.



Pediatric Restraint for Transportation continued on next page ➡

PEDIATRIC RESTRAINT FOR TRANSPORTATION continued**6.8**

↩ *Pediatric Restraint for Transportation continued from previous page*

NON-PATIENT TRANSPORT

There is no place in the patient compartment that is recommended for child passengers. Best practice is to transport well children in a vehicle other than the ambulance, whenever possible, for safety.

If no other vehicle is available and circumstances dictate that the ambulance must transport a well child, he/she may be transported in the passenger seat of the driver's compartment if they are large enough (according to manufacturer's guidelines) to ride forward-facing in a child safety seat or booster seat. If the air bag can be deactivated, an infant, restrained in a rear-facing infant seat, may be placed in the passenger seat of the driver's compartment.

USE OF PATIENT'S CHILD PASSENGER SAFETY SEAT AFTER INVOLVEMENT IN MOTOR VEHICLE CRASH

The patient's **convertible** safety seat may be used to transport the child to the hospital after involvement in a **minor** crash if **ALL** of the following apply:

- ▶ Visual inspection, including under movable seat padding, does not reveal cracks or deformation.
- ▶ Vehicle in which safety seat was installed was capable of being driven from the scene of the crash.
- ▶ Vehicle door nearest the child safety seat was undamaged.
- ▶ The air bags (if any) did not deploy.

REFUSAL OF CARE

6.9

PURPOSE: To establish guidelines for the management and documentation of situations where patients refuse treatment or transportation.

REFUSAL OF CARE

Patients may legally refuse medical treatment and transportation to the hospital provided they have the **mental capacity** to understand the nature and severity of their illness or injury, the treatments being proposed, the risks and consequences of accepting or refusing treatment, and the potential alternatives for transportation for medical care.

The determination of mental capacity is made by the prehospital provider based upon a clinical assessment of the patient. The assessment should include:

- ▶ Evaluation of mental status (e.g., alert and oriented to person, place, and time).
- ▶ Evaluation of speech (e.g., clear and coherent).
- ▶ Observation of gross motor skills.
- ▶ Clinical measurements as appropriate (e.g., SpO₂ and blood glucose).
- ▶ Consideration of prior medical history.

If the prehospital provider has any questions regarding refusal of care, they should contact on-line Medical Control.

A patient whose mental capacity is impaired as a consequence of alcohol intoxication or the influence of medications or drugs cannot legally refuse medical attention. Request law enforcement assistance:

- ▶ If the patient is intoxicated and in need of medical treatment or protective custody, and refuses care, police can take custody of the individual under NH RSA 1 72:B3.

A patient who is suicidal, homicidal, or who intends to cause harm to himself or others, lacks the mental capacity to refuse medical attention. Request law enforcement assistance.

Patients who are suffering from a psychiatric illness, dementia, a mental disability, or a neurological disease, may or may not lack the mental capacity to refuse medical attention.

- ▶ If the individual is an adult and refuses an evaluation or follow-up, and you believe he is suicidal and/or is in immediate danger of bodily injury to himself or others as a result of mental illness, request police assistance.
- ▶ Request that police consider taking the patient into protective custody under NH RSA 135C:28, III. Refer to [Behavioral Emergencies Protocol 2.3](#).

Refusal of Care continued on next page ➞

REFUSAL OF CARE continued

6.9

↩ *Refusal of Care continued from previous page*

PROCEDURE

1. Clearly offer the patient both treatment and transportation to the hospital and document the offer in your Patient Care Report.
2. Perform an assessment of the patient's mental capacity and, to the extent permitted by the patient, a physical exam including vital signs. Your assessment, or the patient's refusal of care, must be fully documented in your Patient Care Report.
3. Explain to the patient the nature and severity of his/her illness or injury, the treatments being proposed, the risks and consequences of accepting or refusing treatment, and the potential alternatives. Fully document the explanation given to the patient in your Patient Care Report.
4. Where a refusal of care is being obtained from a parent, legal guardian, or authorized representative for a minor patient, the prehospital provider must provide the above explanation to the parent, legal guardian, or authorized representative.
5. Prepare and explain the Refusal of Care form to the patient (or, in the case of a minor patient, the patient's parent, legal guardian, or authorized representative).
6. The Refusal of Care form should be signed by the patient (or, in the case of a minor patient, by the minor patient's parent, legal guardian, or authorized representative) at the time of the refusal. The form should also be dated and, where possible, signed by a witness, preferably a competent relative, friend, police officer, or impartial third person.
7. All patients in police custody retain the right to request transport. This should be coordinated with law enforcement.
8. See [Routine patient Care protocol 1.0](#) regarding both consent to care and refusal of care for a minor patient.
9. **Note:** Telephonic refusal of care for a minor patient may be accepted from a parent, legal guardian, or authorized representative. A telephonic refusal of care should be carefully documented in the Patient Care Report.
10. See [Routine patient Care protocol 1.0](#) for more information.
11. If child abuse is suspected and a refusal of care situation exists, the EMT **must** contact police immediately. Refer to [Abuse and Neglect protocol 6.0](#).

RESPONSE TO DOMESTIC VIOLENCE**6.10**

Domestic violence is the willful intimidation, assault, battery, sexual assault, and/or other abusive behavior perpetrated by an intimate partner against another. It is an epidemic affecting individuals in every community, regardless of age, economic status, race, religion, nationality, or educational background. The consequences of domestic violence can cross generations and truly last a lifetime.

When domestic violence is suspected, the EMS provider will further assess the patient and take appropriate action in accordance with New Hampshire state law.

PURPOSE

To ensure that individuals affected by domestic violence are identified and provided with comprehensive medical and psychosocial interventions.

INDICATORS OF DOMESTIC VIOLENCE

The following are potential indicators of domestic violence. If the patient presents with one or more of these indicators, further assessment is warranted.

- ▶ The patient admits to past or present physical or emotional abuse, as a victim or witness.
- ▶ The patient denies physical abuse, but presents with unexplained bruises, whiplash injuries consistent with shaking, areas of erythema consistent with slap injuries, grab-marks on arms or neck, lacerations, burns, scars, fractures, or multiple injuries in various stages of healing, fractured mandible, or perforated tympanic membranes.
- ▶ The patient presents with injury sites suggestive of battering. Common injury sites include areas hidden by clothing or hair (e.g., face, head, chest, breasts, abdomen, and genitals).
- ▶ The extent or type of injury is inconsistent with the explanation offered by the patient.
- ▶ The woman is pregnant.
- ▶ The patient presents evidence of sexual assault or forced sexual actions by a partner.
- ▶ The partner (or suspected abuser) insists on staying close to the patient and may try to answer all questions directed to the patient.
- ▶ The patient is afraid of returning home or indicates concerns for safety of self, children, and/or pets.
- ▶ A substantial delay exists between the time of the injury and presentation for treatment.
- ▶ The patient describes the alleged "accident" in a hesitant, embarrassed, or evasive manner, or avoids eye contact.
- ▶ The patient has "psychosomatic" complaints such as panic attacks, anxiety, choking sensation, or depression.
- ▶ The patient has complaints of chronic pain (back or pelvic pain) with no substantiating physical evidence.
- ▶ The patient or partner has a history of psychiatric illness, alcohol, and/or drug abuse.
- ▶ The patient has a history of suicide attempts or suicidal ideation.
- ▶ Medical history reveals many "accidents" or remarks indicating that previous injuries were of suspicious origin.
- ▶ The patient has a history of self-induced abortions or multiple therapeutic abortions.
- ▶ The patient has a pattern of avoiding continuity in health care.

Response to Domestic Violence continued on next page ➞

RESPONSE TO DOMESTIC VIOLENCE *continued***6.10***↩ Response to Domestic Violence continued from previous page***RESPONSIBILITY OF EMS PROVIDER**

Domestic violence calls are among the most potentially dangerous to responding personnel.

- ▶ If EMS providers respond to a known domestic violence call and arrive prior to police, the providers should stage until police arrive and secure the scene.
- ▶ If EMS providers respond to an unknown call and suspect domestic violence on arrival, the providers should consider withdrawing, notifying police, and proceeding as above.
- ▶ Don't hesitate to return to the vehicle at any time to make decisions or notify police and/or Medical Control.

WHEN CLEARED TO PROCEED

- ▶ Clearly and simply identify yourself and your role. Use non-threatening body language and approach.
- ▶ Use a team approach. Designate one provider to observe for safety and one or more to work on the patient or discreetly assess children for injuries.
- ▶ Know where your partner is.
- ▶ Be aware of the surroundings:
 - ◆ The number and location of exits.
 - ◆ The number and location of people in the residence.
 - ◆ Potential weapons and hiding places.
 - ◆ Position rescuers with access to exit(s).
- ▶ Secure pets.
- ▶ Limit the number of people present: responders, neighbors, family, etc.
- ▶ Let occupants lead down hallways or into stairwells or rooms. (Keep them in front.)
- ▶ Avoid treating a patient in a bedroom (only one exit, intimate setting, possible hidden weapons) or kitchen (many possible weapons).
- ▶ Use hard chairs rather than upholstered furniture as weapons are easily hidden among cushions.
- ▶ Attempt to separate the patient from the suspected batterer for treatment and/or questioning. If possible, move the patient to the ambulance to assess and treat, even if non-transport.
- ▶ If removing personal items from the patient for assessment purposes, place them in paper bags, if possible, to preserve evidence.
- ▶ Treat injuries according to appropriate protocol.
- ▶ Provide psychological support and offer the patient choices when possible to allow the patient to regain a sense of control.

DOCUMENTATION AND REPORTING RESPONSIBILITIES

Per NH RSA 631:6, a person must report to the police any gunshot wound or any other injury he/she believes was caused by a criminal act, with the following exception:

If the patient is 18 years old or older and if the injury was caused by sexual assault or domestic violence and if it is not a gunshot wound or other serious bodily injury, the patient can refuse to have the information released to the police.

Response to Domestic Violence continued on next page ➞

RESPONSE TO DOMESTIC VIOLENCE *continued***6.10**

↩ *Response to Domestic Violence continued from previous page*

REFERRALS

- ▶ The NH Coalition Against Domestic and Sexual Violence (NHCADSV) is a network of 14 agencies across the state that support survivors of domestic and sexual violence. Each agency offers the following free, confidential services:
 - ◆ 24-Hour Domestic Violence Crisis Line: 1-866-644-3574.
 - ◆ 24-Hour Sexual Assault Crisis Line: 1-800-277-5570.
 - ◆ Emergency shelter and transportation.
 - ◆ Legal advocacy.
 - ◆ Hospital and court accompaniment.
 - ◆ Information about public assistance.

RESOURCES FOR EMS EDUCATION

This protocol is intended to serve as an emergent guideline for EMS providers responding to a domestic violence scene. Comprehensive education and training materials are outlined in the following documents.

Boehm, D. EMS Response to Domestic Violence Curriculum and Resource Manual. New Mexico Emergency Medical Services Bureau, Community Health Services Division, Dept. of Health.

<http://health.state.nm.us/ems/PDF/g4011361.pdf>.

Lapolla, J., Little, K., Singer, M., et al. The State of New Hampshire Governor's Commission on Domestic and Sexual Violence: Emergency Medical Services Domestic Violence Protocol.

REFERENCES

American College of Emergency Physicians, Guidelines for the Role of EMS Personnel in Domestic Violence: Policy Resource and Education Paper, 1999.

American College of Emergency Physicians. Policy Statement: Domestic Family Violence www.acep.org October 2007.

Boehm, D. EMS Response to Domestic Violence Curriculum and Resource Manual. New Mexico Emergency Medical Services Bureau, Community Health Services Division, Dept. of Health.

<http://health.state.nm.us/ems/PDF/g4011361.pdf>.

Lapolla, J., Little, K., Singer, M., et al. The State of New Hampshire Governor's Commission on Domestic and Sexual Violence: Emergency Medical Services Domestic Violence Protocol.

National Coalition Against Domestic Violence, www.ncadv.org.

New Hampshire Coalition Against Domestic Violence and Sexual Assault, www.nhcadsv.org.

SPECIAL RESUSCITATION SITUATIONS & EXCEPTIONS***6.11******WHEN NOT TO START***

DO NOT RESUSCITATE ORDERS: Full palliative measures should be instituted when the person or family has evidence of a Do Not Resuscitate Order at hand. Refer to [Do Not Resuscitate \(DNR\) Advanced Directives Protocol 6.4](#).

SCENE SAFETY: The physical environment is not safe for providers.

DEAD ON ARRIVAL (DOA): A person is presumed dead on arrival when all five “Signs of Death” are present **AND** at least one associated “Factor of Death” is present.

SIGNS OF DEATH

- ▶ Unresponsiveness.
- ▶ Apnea.
- ▶ Absence of palpable pulses at carotid, radial, and femoral sites.
- ▶ Unresponsive pupils.
- ▶ Absence of heart sounds.

FACTORS OF DEATH

- ▶ Lividity and/or any degree of generalized cyanosis.
- ▶ Rigor mortis of any degree.
- ▶ Presence of venous pooling in the body.
- ▶ Damage or destruction of the body incompatible with life.
- ▶ Decomposition.
- ▶ Incineration or extensive full thickness burns.
- ▶ Decapitation.
- ▶ Transection of head or trunk.
- ▶ Major blunt or penetrating trauma.
- ▶ Separation of heart and/or brain.
- ▶ Deforming brain Injury.

INFANT DEATH (SIDS). An infant <3 months who is apneic, asystolic (no heartbeat or umbilical cord pulse), and meets the non-trauma factors of death in DOA criteria may be presumed dead.

NEONATE: A neonate who is apneic, asystolic, and exhibits either neonatal **maceration** (softening or degeneration of the tissues after death in utero) or **anencephaly** (absence of a major portion of the brain, skull, and scalp) may be presumed dead. Contact medical resource hospital if gestational age is less than 22 weeks and neonate shows signs of obvious **immaturity** (translucent and gelatinous skin, lack of fingernails, fused eyelids).

Note: Infant and/or neonatal resuscitation and transport may be initiated in cases where the family does not accept the idea of nonintervention.

Special Resuscitation Situations and Exceptions continued on next page ➞

SPECIAL RESUSCITATION SITUATIONS & EXCEPTIONS continued **6.11**

↩ *Special Resuscitation Situations and Exceptions continued from previous page*

LEFT VENTRICUL ASSIST DEVICE (LVAD)

- ▶ CPR is generally not recommended for left ventricular assist device (LVAD) patients unless the LVAD is not functioning. This can be assessed by auscultating for typical LVAD sounds (usually a continuous “hum”).
- ▶ Patients should almost never be pronounced dead at the scene, particularly if there is any doubt about whether the device is functioning or not.
- ▶ Most current LVADs generate continuous rather than pulsatile flow. Thus, most patients will not have a palpable pulse and mean arterial pressure can only be measured with a Doppler device and cuff.
- ▶ Given the potential complexities in their management, providers should contact the patient’s care team prior to transport to help assist in management. If the presenting problem is LVAD related, transport to the implanting facility, if reasonable, is indicated.”

WHEN TO STOP

Termination of resuscitation **MAY BE** considered if spontaneous circulation does not return before transport is initiated.

RESUSCITATION *MAY BE* STOPPED UNDER THE FOLLOWING CIRCUMSTANCES:

- ▶ The physical environment becomes unsafe for providers.
- ▶ The exhaustion of EMS providers.
- ▶ The automatic external defibrillator has advised “no shock” on 5 sequential analyses and ALS/hospital care is not available within 15 minutes (hypothermia is an exception).
- ▶ There is no return of spontaneous circulation after 15 minutes of either BLS alone or combined BLS and ALS in the absence of hypothermia.
- ▶ Extrication is prolonged (>15 minutes) with no resuscitation possible during extrication (hypothermia is an exception).
- ▶ If directed to do so by Medical Control.

Prolonging resuscitation efforts beyond 15 minutes without a return of spontaneous circulation is usually futile, unless cardiac arrest is compounded by hypothermia, submersion in cold water, or intermittent ventricular fibrillation or ventricular tachycardia.

EMS providers are not required to transport every victim of cardiac arrest to a hospital. Unless special circumstances are present, it is expected that most resuscitations will be performed on-scene until the return of spontaneous circulation or a decision to cease resuscitation efforts is made based on the criteria listed under “When to Stop” (above). Transportation with continuing CPR is justified if hypothermia is present or suspected. Current AHA guidelines state: “cessation of efforts in the out-of-hospital setting...should be standard practice.”

Special Resuscitation Situations and Exceptions continued on next page ➡

SPECIAL RESUSCITATION SITUATIONS & EXCEPTIONS continued **6.11**

↩ *Special Resuscitation Situations and Exceptions continued from previous page*

DETERMINING DEATH IN THE FIELD

When efforts to resuscitate are not initiated or are terminated under the above provisions, EMS providers shall:

- ▶ Document time of death.
- ▶ Notify law enforcement.
- ▶ Consider possibility of a crime scene and restrict access.
- ▶ Leave the body in place.
- ▶ Leave any resuscitation adjuncts such as endotracheal tubes, IV lines, electrode pads, etc., in place.
- ▶ Inform family at scene of patient's death and offer to contact family, friends, clergy, or other support systems.

MASS CASUALTY INCIDENT

Do not attempt resuscitation of near-arrest or full-arrest patients (category Black/Expectant) if EMS personnel are required to care for category Red/Immediate patients.

DOCUMENTATION

- ▶ Complete a Patient Care Record (PCR) in all cases. If available, include ECG rhythm strips with the Patient Care Record.
- ▶ Document special orders including DNR, on-line Medical Control, etc.
- ▶ MCI conditions may require a tag in addition to an abbreviated PCR.

Record any special circumstances or events that might impact patient care or forensic issues.

LEGAL STANDING

All deaths are potentially criminal until the Medical Examiner declines jurisdiction.

UMBILICAL VEIN CANNULATION

PROVIDER LEVEL APPROVED

- Paramedic.

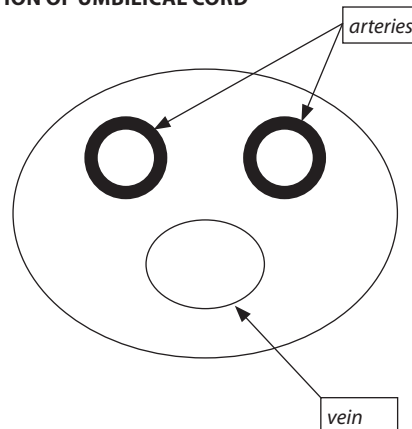
INDICATIONS

- Intravenous access needed for resuscitation and stabilization of a newborn.

PROCEDURE

1. Prepare base of umbilical cord and adjacent skin with providone-iodine solution.
2. Place umbilical tape, or suitable equivalent, around base of umbilical cord with a loose knot.
3. Cut umbilical cord proximal to previous clamp site, leaving approximately 2cm of cord. Umbilical tape may be tightened to control bleeding.
4. Identify the umbilical vein. Typically it has a thinner wall and larger lumen than the two umbilical arteries.
5. Insert umbilical vein catheter 3.5 Fr (preterm) or 5.0 Fr (full term) into the umbilical vein and advance 1 – 2cm beyond the point at which blood returns freely. Advancing the catheter too far can result in placement within the liver, which may lead to liver necrosis. If a commercial catheter is not available, an 18 or 16 gauge peripheral angiocath may be used as an alternative.
6. Attach syringe (with three-way stopcock preferred) with sterile saline and aspirate. Free flow of blood should be noted.
7. Gently tighten umbilical tape to help secure catheter in place and prevent bleeding.
8. Secure umbilical catheter with tape.

CROSS-SECTION OF UMBILICAL CORD



VASCULAR ACCESS VIA CENTRAL CATHETER—ADULT & PEDIATRIC 6.13

PROVIDER LEVEL APPROVED

- ▶ Paramedic who has taken the NH Bureau of EMS and Medical Control Board approved training module.

INDICATIONS

- ▶ In the presence of a life threatening condition, with clear indications for immediate use of medications or fluid bolus.

CONTRAINDICATIONS

- ▶ Prophylactic IV access.
- ▶ Suspected infection at skin site.

PROCEDURE

Determine the type of catheter present: PICC, Broviac, Hickman, Groshong, Mediport, etc.

- ▶ Procedure for Peripherally Inserted Central Catheter (Cook, Neo-PICC) and Tunneled Catheter (Broviac, Hickman, Groshong)
 1. Prepare equipment: 10ml syringe (empty), 10ml syringe (0.9% NaCl [normal saline]), and sterile gloves (if available).
 2. If more than one lumen is available (PICCs and Broviacs can have one, two, or three lumens), select the largest lumen available.
 3. Remove cap on the end of the catheter.
 4. Prep the end of the lumen with an alcohol swab.
 5. Using a 10ml syringe, (after unclamping the lumen) aspirate 3 – 5ml of blood with the syringe and discard. If unable to aspirate blood, re-clamp the lumen and attempt to use another lumen (if present). If clots are present, contact Medical Control before proceeding. Re-clamp the lumen.
 6. Flush the lumen with 3 – 5ml 0.9% NaCl (normal saline) using a 10ml syringe. If catheter does not flush easily (note that a PICC line will generally flush more slowly and with greater resistance than a typical intravenous catheter), re-clamp the selected lumen and attempt to use another lumen (if present).
 7. Attach IV administration set and observe for free flow of IV fluid.
 8. If shock is not present, allow fluid to run at rate of 10ml/hour to prevent the central line from clotting.

Note: The maximum flow rates for a PICC line is 125ml/hour for <2.0 Fr sized catheter and 250ml/hour for >2.0 Fr sized catheters.

Note: Avoid taking a blood pressure reading in the same arm as the PICC.

Vascular Access Via Central Catheter continued on next page ➞

VASCULAR ACCESS VIA CENTRAL CATHETER

—ADULT & PEDIATRIC continued

↪ *Vascular Access Via Central Catheter continued from previous page*

- ▶ Procedure for implanted catheter (Port-a-Cath, P.A.S. Port, Medi-Port)
 1. Prepare all necessary equipment: 10ml syringe (empty), 10ml syringe 0.9% NaCl (normal saline), and sterile gloves (if available).
 2. Identify the access site; usually located in the chest.
 3. Clean the access site with povidine-iodine solution.
 4. Secure the access point firmly between two fingers and attach a 10ml syringe to Haberman/Huber Needle.
 5. Aspirate 3 – 5ml of blood with the syringe. If unable to aspirate blood, re-clamp the catheter and do not attempt further use. If clots are present, contact Medical Control before proceeding.
 6. Flush the catheter with 3 – 5ml 0.9% NaCl (normal saline) using a 10ml syringe. If catheter does not flush easily, do not attempt further use.
 7. Attach IV administration set and observe for free flow of IV fluid.
 8. If shock is not present, allow fluid to run at rate of 10ml/hour to prevent the central line from clotting.

INTERFACILITY TRANSFERS

7.0

INTRODUCTION

The purpose of this section is to reconcile the unique aspects of interfacility transfer with current NH EMS law, licensure, and acute care protocols. It is intended to provide flexibility, where possible, for individual agencies, institutions, and communities to meet their unique needs.

INTERFACILITY TRANSFER

An interfacility transfer is defined as any EMS ambulance transport from one healthcare facility to another. Examples include hospital-to-hospital, hospital-to-rehabilitation, and hospital-to-long-term care. (Guide for Interfacility Patient Transfer, NHTSA, April 2006.)

TRANSFERRING INSTITUTION

Responsibility for patient transfer lies with the transferring physician/provider, and must take into account the risks versus the benefits to the patient. Providing appropriate equipment, medications, and qualified staffing during transport is paramount to patient safety. These parameters should be based on the requirements of the patient at the time of transfer, and in reasonable anticipation of foreseeable complications, deterioration, and medical needs that might arise during transport.

Initiation of a transfer should be a carefully coordinated effort by the transferring and receiving physicians, the transferring and receiving facilities, and the transferring unit and personnel. Time or advanced notification may be needed for the transferring EMS unit to reconfigure in order to meet the needs outlined here. The following provides guidelines for the selection of appropriate NH EMS personnel to provide interfacility transport of patients consistent with their current scope of licensure, protocols, and training. Staffing, Medical Control, documentation, medications, transfer protocols, and procedures are addressed.

TRAINING LEVELS

Standard paramedic curriculum does not specifically address the care of the critically ill patient during an extended transport. NH requires specific training for paramedics to provide extended transport of critically ill or injured patients.

New Hampshire has two levels of paramedic interfacility training and credentialing: Paramedic Interfacility Transport (PIFT), and Critical Care Transport (CCT). All paramedics who will be staffing an interfacility transfer must be credentialed at a minimum of PIFT level training. The PIFT level of training is intended to address the majority of interfacility transfer situations. However, some patients will have a level of acuity and/or complexity that requires a CCT level transport—either air or ground. The CCT level of credentialing requires greater training, medical oversight, and service support, and is intended for the more limited number of acute and complex interfacility transfers that occur; therefore, a limited number of paramedics will be credentialed to function at the CCT level. If that level of resource is not readily available, it is an acceptable practice to supplement the PIFT crew with hospital staff that is qualified to provide the level of care the patient requires.

Interfacility transfers that are appropriate for Basic or Intermediate EMT level of care do not require additional levels of credentialing beyond training requirements defined in the NH EMS protocols and by SAF-C 5900.

Interfacility Transfers continued on next page ➡

INTERFACILITY TRANSFERS continued**7.0**

↩ *Interfacility Transfers continued from previous page*

NH EMS Protocol enables PIFT paramedics to continue medications that are not within their routine scope of practice during an interfacility transport, including continuous infusions, repeat boluses, or blood products, providing that, **prior to transporting the patient:**

- ▶ The medication was previously administered or initiated, **AND**
- ▶ An appropriate observation process occurred to rule out any adverse reactions, **AND**
- ▶ The paramedic proactively obtained working knowledge and education of any such medications or products by reviewing current medication monographs (hardcopy or electronic), consulting with sending clinicians, medical directors, or clinical pharmacists, reviewing established practice policies (such as for blood products), or other standard clinical research means.

EMS providers must refuse to transport patients that have a level of acuity and/or medication regimen that they are not comfortable with, and work with the sending facility to acquire optimal staffing (such as sending nursing staff or requesting a CCT transport).

MINIMUM STAFFING

The transferring physician/provider is responsible for determining the level of EMS provider and resources that are appropriate to meet the patient's current and anticipated condition and needs. The following are examples only, and do not comprise a comprehensive list.

STABLE PATIENT WITH NO RISK FOR DETERIORATION

1 EMT Basic Provider and 1 First Responder (minimum) driver.

- ▶ No IV infusions.
- ▶ Oxygen for stable patient permitted.
- ▶ Previously inserted Foley catheter, suprapubic tube, established feeding tube (NG, PEG, J-tube not connected to infusion or suction).
- ▶ Saline lock permitted.

STABLE PATIENTS WITH LOW RISK OF DETERIORATION

1 EMT Intermediate Provider and 1 First Responder (minimum) driver.

- ▶ Any crystalloid infusion.
- ▶ IV infusion pump for non-pharmacologic agents.
- ▶ Patient-controlled analgesic (PCA) pump.
- ▶ No ongoing or anticipated medications to be administered.

STABLE PATIENTS WITH MEDIUM RISK OF DETERIORATION

PIFT credential required. This protocol is only to be used by paramedics and EMS units who have been trained and credentialed to perform PIFT-level transfers by the NH Bureau of EMS and the NH Medical Control Board.

1 PIFT Paramedic Provider and 1 EMT Basic (as driver or second provider).

- ▶ Transcutaneous pacing.
- ▶ Stable patient on ventilator for discharge to long-term care.
- ▶ Intubated/ventilated patients with non-complex settings (e.g., no pressure control, PEEP ≤ 10); **MUST have a second provider in the patient compartment.**
- ▶ Medical monitoring, procedures, and medication administration consistent with skill-set, approved medications, protocols, and licensure.

Interfacility Transfers continued on next page ➞

INTERFACILITY TRANSFERS continued**7.0**

↩ *Interfacility Transfers continued from previous page*

- ▶ Advanced Airway Management.
- ▶ Chest tube.
- ▶ Infusion of previously initiated blood products.
- ▶ Maintenance of previously initiated medications.
- ▶ Epidural catheter if secured, capped, and labeled.

UNSTABLE OR STABLE PATIENTS WITH HIGH RISK OF DETERIORATION

CCT credential required. Option 1 of this protocol is only to be used by paramedics and EMS units who have been trained and credentialed to perform CCT-level transfers by the NH Bureau of EMS and the NH Medical Control Board.

- ▶ **Option 1:** A properly credentialed CCT crew and air or ground ambulance, **OR**
- ▶ **Option 2:** 1 PIFT Paramedic Provider, 1 EMT Basic driver **AND**, at a minimum, 1 additional, (sending) **hospital-based**, qualified Advanced Health Care Provider (e.g., a Critical Care or Emergency Registered Nurse, Physician Assistant, Nurse Practitioner, Physician, CCT Paramedic, etc.). The 2 advanced care providers must be in the patient compartment.
 - ◆ Multiple vasoactive medication drips.
 - ◆ Uncorrected shock.
 - ◆ Invasive monitoring.
 - ◆ Balloon pump.
 - ◆ Transvenous pacing.
 - ◆ Intubated/ventilated patients with advanced or complex vent settings (such as pressure support, PEEP >10, etc.). **Non-credentialed CCT crews** must also have 1 respiratory care practitioner in the patient compartment. This is in addition to the PIFT Paramedic Provider and the hospital-based Advanced Health Care Provider.
 - ◆ Procedures consistent with provider licensure, scope of practice, and training.

The MCB strongly encourages the use of paramedics specially trained for the type of patient/condition being transported but, recognizes that a CCT crew may not always be available.

As a measure of last resort, in cases where CCT paramedics are unavailable **AND** delay in transfer would have a significant negative impact on patient outcome, other transport arrangements may be initiated provided that:

1. The sending facility makes an exhaustive effort to send additional personnel.
2. The NH Bureau of EMS, and Unit EMS Medical Director are notified within 48 hours and appropriate TEMSIS and IFT documentation is completed by the EMS Unit and the sending physician/institution.
3. All interventions are within the scope of practice of the transporting paramedic and vehicle.

DEFINITIONS

- ▶ **Unstable Patient:** A patient who cannot be stabilized at the transporting facility, who is deteriorating or likely to deteriorate. (From “Guide for Interfacility Patient Transfer,” NHTSA.)
- ▶ **Stable Patient:** A hemodynamically stable patient with a secure airway and who is **NOT** in acute distress (e.g., active labor, respiratory distress, dangerous dysrhythmias, shock, uncontrolled bleeding). Medical determinations of “stable” are not necessarily the same as the legal definitions used by EMTALA.

Interfacility Transfers continued on next page ➞

INTERFACILITY TRANSFERS continued**7.0**

↪ *Interfacility Transfers continued from previous page*

EMTALA specifies for non-pregnancy cases that “stabilized” means: “With respect to an emergency medical condition . . . [other than labor] . . . to provide such medical treatment of the condition as may be necessary to assure, within reasonable medical probability, that no material deterioration of the condition is likely to result from, or during transfer.” With respect to a pregnant woman with contractions, “stable” means the patient has delivered (including the placenta). Psychiatric patients are stable for interfacility transfer if they are “protected” from hurting themselves or others. This may be accomplished through the use of medication or physical restraints.

MEDICAL CONTROL RESPONSIBILITIES

According to EMTALA, patient care during transport until arrival at the receiving facility is the responsibility of the transferring physician unless other arrangements are made.

Sometimes, as in certain Air Medical Transport services or ground critical care units, the transport is functioning as an extension of a tertiary center. It operates under that facility’s protocols, medical directorship, and on-line Medical Control.

In the prehospital environment, the EMS system operates under protocols. In the interfacility transfer environment, written transfer orders that are within the scope of the provider’s protocols and licensure are also required to be authored by the transferring physician. The combination of protocols and transfer orders provide off-line Medical Control.

Transfer orders must be specific, appropriate to the patient being transferred, and reasonably anticipate potential complications en route. Transfer orders may reference the use of NH EMS Protocols where they are applicable. If patients develop new symptoms during transport, beyond their initial transfer diagnosis, EMS providers may treat the new symptoms according to NH EMS Protocols. Where transfer orders and protocols are in conflict, transfer orders take precedence.

The transferring physician should be immediately available to review transport orders and provide Medical Control communication via radio, cell phone, or telephone during the transport. If the physician is unavailable, they must make other arrangements for review of the transfer orders with the transport crew.

PIFT AND CCT PREREQUISITES AND OVERSIGHT

It is the responsibility of the NH Bureau of EMS to monitor the quality of care delivered under this system, and to set the standards for credentialing providers and units. PIFT and CCT transports shall only be conducted by those providers who have completed and maintain the approved training, and who are credentialed by a unit that is approved by the NH Bureau of EMS.

As the field of critical care interfacility transport is a fluid one, many questions arise as to scope of practice issues. There is a subcommittee established by the NH EMS Medical Control Board (MCB) to consider questions and make interim rulings on those questions until such a time as the MCB has the opportunity to consider and modify or adopt such rulings. These responses will be posted on the NHBEMS website.

HAZARDOUS MATERIALS EXPOSURE

8.0

The goal of the Hazardous Materials Exposure Protocol is to prepare the EMS provider for the potential risks that may be encountered and to provide guidelines to mitigate the effects of a hazardous exposure incident. The EMS provider may reference additional protocols for the management of specific hazardous materials exposure in dealing with known chemicals.

Successful management of a hazardous materials exposure depends on effective coordination between EMS, local hazardous materials teams, fire and police departments, the Poison Control Center, and appropriate state and federal agencies.

IDENTIFICATION

- ▶ Identification of the exposed material should be made at the earliest convenient time possible.
- ▶ Proper chemical name and spelling will be necessary for identification of procedures for Poison Control (1-800-222-1222) and receiving hospitals.
- ▶ Utilization of shipping papers, waybills, and Material Safety Data Sheets (MSDS) may assist in identifying chemical hazards, safety precautions, personal protective equipment, and treatments.
- ▶ **Note:** Many household chemicals may not require activation of a hazardous materials team. Utilize manufacturer's recommendation for decontamination and treatment, or contact Poison Control for treatment and decontamination procedures.

PERSONAL SAFETY

- ▶ **Personal protection is the highest priority** when responding to an incident where hazardous material exposure is suspected. **DO NOT ENTER THE HOT ZONE.** Only HazMat Teams should enter the hot zone. Emergency response personnel caring for decontaminated patients should wear universal precautions including gowns, gloves, booties, and goggles/face shields.
- ▶ If there is a major hazardous materials release:
 - ◆ Request specific staging information and be alert for clusters of injured patients.
 - ◆ Maintain safe location upwind and uphill of the site (at least 300 ft.).
 - ◆ Observe strict adherence to hot, warm, and cold-zone areas for personal safety, decontamination, and treatment.
 - ◆ Activate HazMat Response/Incident Command System.
 - ◆ Incident Command to notify NH Bureau of Emergency Management (603-271-2231) to request additional resources including law enforcement and pharmaceutical supply.

PATIENT DECONTAMINATION

Only properly trained and protected personnel should conduct patient decontamination. The decontamination system is established by the appropriately trained fire department/HazMat team. EMS personnel will work cooperatively with them during the decontamination process.

Patient decontamination is necessary to minimize injury due to exposure, as well as to mitigate risk of secondary exposure.

MASS/GROSS DECONTAMINATION

- ▶ Mass Decontamination (Large-Scale Multiple/Mass Casualty) involves the effective dilution of a chemical or hazardous substance utilizing large quantities of water. This process is supervised by the appropriately trained local fire department or HazMat team.
- ▶ This process is necessary due to the involvement of an overwhelming number of patients, the severity of symptoms, and where Technical or Fine Decontamination cannot be utilized due to time and personnel.

Hazardous Materials Exposure continued on next page ➡

HAZARDOUS MATERIALS EXPOSURE *continued***8.0**

↩ *Hazardous Materials Exposure continued from previous page*

TECHNICAL DECONTAMINATION

- ▶ Technical Decontamination involves a multi-step process, supervised by the appropriately trained fire department or HazMat team.
- ▶ This decontamination process is dependent on the type of chemical hazard present, and may require different methods such as:
 - ◆ Dilution.
 - ◆ Absorption.
 - ◆ Neutralization.
 - ◆ Adsorption.
 - ◆ Chemical degradation.
 - ◆ Solidification.

Each method of decontamination has specific uses. Ascertain from the HazMat Team which method was used, if there are any hazards associated with the decontamination process, and if further definitive decontamination is required at the hospital.

DEFINITIVE/FINE DECONTAMINATION

- ▶ Usually completed at the hospital, it involves additional washing and rinsing to further dilute and finally remove any contaminants. Definitive decontamination should be performed in an authorized decontamination facility and with appropriately trained personnel.

DECONTAMINATION OF THE SPECIAL REQUIREMENT POPULATIONS

Children and their families, the elderly/frail, and patients with medical appliances will require more EMS staff and time for general assistance and may also require simultaneous basic life support assistance during decontamination. An individual patient requiring special needs decontamination may take 10 – 15 minutes to complete.

Although the principals of decontamination are the same, certain precautions may need to be taken, depending on the patient.

- ▶ These patients may have the inability to give history or describe symptoms and physical complaints.
- ▶ Typical stress response of children is to be highly anxious and inconsolable, making assessment difficult.
- ▶ Small children are more difficult to handle while wearing Personal Protection Equipment (PPE).
- ▶ Attempt to keep children with their families, as the decontamination process is likely to be frightening and children may resist.
- ▶ Keep patients with existing medical conditions together with their caregivers.
- ▶ Children and elderly, and possibly special needs patients, are inherently unable to maintain body temperature and quickly become hypothermic. Utilize water warmed to 100°F, if available, keep warm after drying procedure.
- ▶ Use low-pressure water and soft wash clothes and protect the airway and eyes throughout the decontamination process.

TREATMENT DURING DECONTAMINATION

- ▶ If medication is required, limit administration route to intramuscular or medi-inhaler.
- ▶ Intravenous therapy and advanced airway interventions should be delayed until after gross decontamination.
- ▶ Specific individual treatment should be referenced from Poison Control or MSDS sheets.

Hazardous Materials Exposure continued on next page ➞

HAZARDOUS MATERIALS EXPOSURE *continued***8.0**

↪ *Hazardous Materials Exposure continued from previous page*

DOCUMENT EXPOSURE AND TREATMENT INFORMATION

- ▶ Name of chemical(s).
- ▶ Amount, time, and route of exposure.
- ▶ Decontamination information.
- ▶ Treatment/antidotes administered.

TRANSPORT

- ▶ EMS personnel transporting contaminated patients must have appropriate PPE.
- ▶ If an ambulance has transported a contaminated patient, it can only be used to transport similarly contaminated patients until proper decontamination of the vehicle is complete.
- ▶ Contaminated patients will not be transported by helicopter.
- ▶ Lining of the interior of the ambulance and further use of PPE may be necessary, dependent upon the level of completed decontamination.
- ▶ Communication of chemical exposure should be transmitted to the receiving hospital at the earliest possible time. Transmitted information should include such information as covered under the documentation and treatment section.

MASS/MULTIPLE CASUALTY TRIAGE

8.1

PURPOSE

- ▶ The goal of the Mass/Multiple Casualty Triage protocol is to prepare for a unified, coordinated, and immediate EMS mutual aid response by prehospital and hospital agencies to effectively expedite the emergency management of the victims of any type of Mass Casualty Incident (MCI).
- ▶ Successful management of any MCI depends upon the effective cooperation, organization, and planning among health care professionals, hospital administrators and out-of-hospital EMS agencies, state and local government representatives, and individuals and/or organizations associated with disaster-related support agencies.

DEFINITIONS

MULTIPLE CASUALTY SITUATIONS

- ▶ The number of patients and the severity of the injuries do not exceed the ability of the provider to render care. Patients with life-threatening injuries are treated first.

MASS CASUALTY INCIDENTS

- ▶ The number of patients and the severity of the injuries exceed the capability of the provider, and patients sustaining major injuries who have the greatest chance of survival with the least expenditure of time, equipment, supplies, and personnel are managed first.

GENERAL CONSIDERATIONS

Initial Assessment to include the following:

- ▶ Location of incident.
- ▶ Type of incident.
- ▶ Any hazards.
- ▶ Approximate number of victims.
- ▶ Type of assistance required.

COMMUNICATIONS

- ▶ Within the scope of a Mass Casualty Incident, the EMS provider may, within the limits of their scope of practice, perform necessary ALS procedures, that under normal circumstances would require a direct physician's order.
- ▶ These procedures shall be the minimum necessary to prevent the loss of life or the critical deterioration of a patient's condition.
- ▶ All procedures performed under this order shall be documented thoroughly.

TRIAGE

Utilize a triage system such as "START" (adults) or "Jump START" (children) to prioritize patients.

- ▶ Assess each patient as quickly and safely as possible.
- ▶ Conduct rapid assessment.
- ▶ Assign patients to broad categories based on need for treatment.
- ▶ Remember: Triage is not treatment! Stopping to provide care to one patient will only delay care for others. Standard triage care is only to correct airway and severe bleeding problems.

Mass/Multiple Casualty Triage continued on next page ➞

MASS/MULTIPLE CASUALTY TRIAGE continued

8.1

↩ *Mass/Multiple Casualty Triage continued from previous page*

TRIAGE CATEGORIES

- ▶ Immediate (**RED**): Life threatening Injuries. Symptoms involving serious impairment of 2 or more organ systems, seizing, altered mental status, unconsciousness, severe respiratory compromise, or hemorrhaging.
- ▶ Delayed (**YELLOW**): Urgent care can be delayed up to one hour. Patients who have no immediate life-threatening injuries/effects but injury or exposure is suspected.
- ▶ Minimal (**GREEN**): Care can be delayed up to three hours. Patients able to walk and talk after event or exposure.
- ▶ Expectant (**BLACK**): Deceased or casualties whose injuries are so severe that their chance of survival does not justify expenditure of limited resources. As circumstances permit, casualties in this category may be reexamined and possibly be re-triaged to a higher category.

TAGGING SYSTEMS

- ▶ Use water-repellent triage tags with waterproof markers and attach to the patient.
- ▶ Indicate patient's triage priority, degree of decontamination performed, treatment and medications received.

TRIAGE IN HAZARDOUS MATERIALS INCIDENTS

DECONTAMINATION

The need for decontamination is the "first triage decision." Since decontamination can be a lengthy process, the "second decision" is which patient(s) are the first to be decontaminated. The "third decision" is based on need for treatment during the decontamination process, since only simple procedures such as antidote administration can be accomplished while wearing PPE.

IDENTIFICATION AND TREATMENT

- ▶ Signs and symptoms of exposure will usually dictate the treatment required, however, at the earliest possible time, identification of the specific chemical should be made.
- ▶ Reference additional Hazardous Materials Protocols as necessary.
- ▶ Request additional resources. Initial antidote and medical supplies may be limited to priority patients.
- ▶ Respiratory compromise is a leading factor of fatalities due to Hazardous Materials Exposure. Symptoms of chemical exposure may be delayed and occur suddenly. Constant reevaluation of respiratory status is necessary.

NERVE AGENTS & ORGANOPHOSPHATES MCI—ADULT**8.2****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Assess for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching/miosis (constricted pupils) and KILLER Bs (Bradycardia, Bronchorrhea, Bronchospasm).
- ▶ Remove to cold zone after decontamination and monitor for symptoms.
- ▶ Nerve Agent Antidote Auto Injectors are used only in Mass Casualty Incidents.
- ▶ Antidotal therapy should be started as soon as symptoms appear.
- ▶ All antidote auto-injections must be administered IM.
- ▶ For the Mark 1 kit, atropine (tube #1) should always be administered before pralidoxime chloride (tube# 2).

Determine dosing according to the following symptom assessment and guidelines.

Tag Color	Signs & Symptoms of SLUDGEM	Autoinjector dose and Monitoring Interval	Repeat Dosing	Maintenance Dose
RED	apnea, convulsions, unconsciousness, flaccid paralysis	3 Mark 1 kits OR 3 DuoDotes AND 1 diazepam (10mg) Auto-Injector.	Diazepam Auto-Injector may be repeated 3 times at 10 – 15 minute intervals.	1 Mark 1 kit OR 1 DuoDote every hour for 3 hours.
YELLOW	dyspnea, twitching, nausea, vomiting, sweating, anxiety, confusion, constricted pupils, restlessness, weakness	1 Mark 1 kit OR 1 DuoDote Monitor every 10 minutes.	If symptoms progress: 2 Mark 1 kits OR 2 DuoDotes AND 1 diazepam Auto-Injector. Diazepam may be repeated 3 times at 10 – 15 minute intervals.	
GREEN	asymptomatic, none	Monitor every 10 – 15 minutes for evidence of exposure.		

PARAMEDIC STANDING ORDERS**P**

- ▶ If field conditions permit, initiate cardiac monitoring and consider the administration of IV medications.
- ▶ If symptoms persist after the administration of either 3 Mark 1 kits, **OR** 3 DuoDote kits:
 - ◆ Atropine 2mg IV; repeat every 5 minutes until secretions clear
 - ◆ Pralidoxime 1 – 2 gram IV over 30 – 60 minutes
 - ◆ Diazepam 10mg IM/IV; repeat every 5 – 10 minutes as needed
- ▶ **Instead of diazepam, may use either:**
 - ◆ Lorazepam 2 – 4mg IM/IV; repeat every 5 – 10 minutes as needed, **OR**
 - ◆ Midazolam 2.5 – 5mg IM/IV; repeat every 5 – 10 minutes as needed
- ▶ Albuterol 2.5mg in 3ml 0.9% NaCl (normal saline) via nebulizer, as needed.

PARAMEDIC MEDICAL CONTROL MAY CONSIDER

- ▶ Pralidoxime maintenance infusion: up to 500mg per hour (maximum of 12 grams/day).

The New Hampshire Bureau of EMS has taken extreme caution to ensure all information is accurate and in accordance with professional standards in effect at the time of publication. These protocols MAY NOT BE altered or modified.

NERVE AGENTS & ORGANOPHOSPHATES MCI—PEDIATRIC**8.2P****BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ Routine Patient Care.
- ▶ Assess for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching/miosis (constricted pupils) and KILLER Bs (Bradycardia, Bronchorrhea, Bronchospasm).
- ▶ Remove to cold zone after decontamination and monitor for symptoms.
- ▶ Nerve Agent Antidote Auto-Injectors are used only in Mass Casualty Incidents.
- ▶ Antidotal therapy should be started as soon as symptoms appear.
- ▶ All antidote auto-injections must be administered IM.
- ▶ For the Mark 1 kit, atropine (tube #1) should always be administered before pralidoxime chloride (tube #2).

Determine dosing according to the following assessment and guidelines.

Tag Color	Signs & Symptoms of SLUDGEM	Autoinjector Doses and Monitoring Interval		Atropine Repeat Dosing
RED (Pediatric)	Yes	Age <1 yr	1 Peds Atropine Auto-Injector (0.5mg)* Monitor every 3 minutes.	1 Atropine Auto-Injector (0.5mg) every 3 – 5 minutes as needed.
		Age >1 yr	1 Adult Mark 1 kit OR 1 Adult DuoDote Monitor every 3 minutes.	1 Atropine Auto-Injector (2mg) every 3 – 5 minutes as needed.
GREEN (Pediatric)	No	None Monitor every ten minutes for evidence of exposure.		

***One ADULT Mark 1 kit OR DuoDote** may be used for pediatric patients <1 year old in a life-threatening situation with exposure symptoms when no pediatric doses of atropine and pralidoxime chloride are available.

Nerve Agents & Organophosphates MCI continued on next page ➞

NERVE AGENTS & ORGANOPHOSPHATES

MCI—PEDIATRIC *continued*

8.2P

↪ *Nerve Agents & Organophosphates MCI continued from previous page*

PARAMEDIC STANDING ORDERS

P

- ▶ In the unlikely event that field conditions permit, follow weight-based dosing and treatment guidelines:
 - ◆ Initiate cardiac monitoring.
 - ◆ Establish IV access.
 - ◆ Atropine 0.05 – 0.1mg/kg IV or IM (minimum dose of 0.1mg, maximum single dose 5mg); repeat every 2 – 5 minutes as needed
 - ◆ Pralidoxime 25 – 50mg/kg/doses IV (maximum dose 1 gram) or IM (maximum dose of 2 grams), may repeat within 30 – 60 minutes as needed, then again every hour for 1 – 2 doses as needed.
 - ◆ Diazepam 0.3mg/kg IV (0.5mg/kg per rectum) (maximum dose 10mg), repeat every 5 – 10 minutes as needed

Instead of diazepam, may use either:

- ◇ Lorazepam 0.1mg/kg IV/IM (maximum dose 4mg), repeat every 5 – 10 minutes as needed, **OR**
- ◇ Midazolam 0.2mg/kg IM, repeat every 5 – 10 minutes as needed.
- ◆ Albuterol 2.5mg in 3ml 0.9% NaCl (normal saline) via nebulizer as needed.

Antidote: Flumazenil 0.2mg IV over 30 seconds to reverse the adverse effects of benzodiazepines that were administered by EMS personnel.

PARAMEDIC MEDICAL CONTROL MAY CONSIDER

- ▶ Pralidoxime maintenance infusion: 10 – 20mg/kg/hr.
- ▶ 0.2mg/kg Midazolam sublingual, intranasal.

NERVE AGENTS & ORGANOPHOSPHATES MCI—PROVIDER PROTECTION 8.3**BASIC/INTERMEDIATE STANDING ORDERS****B/I**

- ▶ If first responder(s) display symptoms, notify dispatch immediately.
- ▶ All first responders will evacuate area until secured by HazMat Team.
- ▶ Remove clothing and decontaminate yourself and/or assist other responders.
- ▶ Routine Patient Care.
- ▶ Assess for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching/miosis (constricted pupils) and KILLER Bs (Bradycardia, Bronchorrhea, Bronchospasm).
- ▶ Use Mark 1 or DuoDote auto-injectors only if nerve agent symptoms are present. These autoinjector kits **offer no prophylactic protection** and use prior to appearance of symptoms may be harmful.
- ▶ All antidote auto-injections must be administered IM.
- ▶ For the Mark 1 kit, atropine (tube #1) should always be administered before pralidoxime chloride (tube #2)

Determine dosing according to the following symptom assessment and guidelines.

Tag Color	Signs & Symptoms of SLUDGEM	Autoinjector Dose and Monitoring Interval	Repeat Dosing	Maintenance Dose
RED	apnea, convulsions, unconsciousness, flaccid paralysis	3 Mark 1 kits OR 3 DuoDotes AND 1 diazepam (10mg) Auto-Injector.	Diazepam Auto-Injector may be repeated 3 times at 10 – 15 minute intervals.	1 Mark 1 kit OR 1 DouDote every hour for 3 hours.
YELLOW	dyspnea, twitching, nausea, vomiting, sweating, anxiety, confusion, constricted pupils, restlessness, weakness	1 Mark 1 kit OR 1 DouDote for minor symptoms. Monitor every 10 minutes.	If symptoms progress: 2 Mark 1 kits OR 2 DuoDotes AND 1 diazepam Auto-Injector. Diazepam may be repeated 3 times at 10 – 15 minute intervals.	
GREEN	asymptomatic, none	Monitor every 10 – 15 minutes for evidence or exposure.		

Transport self and any other first responder(s) receiving Mark 1 therapy to hospital.

Nerve Agents & Organophosphates MCI—Provider Protection continued on next page ➞

NERVE AGENTS & ORGANOPHOSPHATES

MCI—PROVIDER PROTECTION *continued*

8.3

↪ *Nerve Agents & Organophosphates MCI—Provider Protection continued from previous page*

PARAMEDIC STANDING ORDERS

P

- ▶ If field conditions permit, initiate cardiac monitoring and consider the administration of IV medications.
- ▶ If symptoms persist after the administration of 3 Mark 1 kits, **OR** 3 DuoDotes:
 - ◆ Atropine 2mg IV; repeat every 5 minutes until secretions clear.
 - ◆ Pralidoxime 1 – 2 gram IV over 30 – 60 minutes.
 - ◆ Diazepam 10mg IM/IV; repeat every 5 – 10 minutes as needed.

Instead of diazepam, may use either:

- ◇ Lorazepam 2 – 4mg IM/IV; repeat every 5 to 10 minutes as needed, **OR**
- ◇ Midazolam 2.5 – 5mg IM/IV; repeat every 5 to 10 minutes as needed.
- ◆ Albuterol 2.5mg in 3ml 0.9% NaCl (normal saline) via nebulizer, as needed.

Antidote: Flumazenil 0.2mg IV over 30 seconds to reverse the adverse effects of benzodiazepines that were administered by EMS personnel.

MEDICAL CONTROL MAY CONSIDER

- ◆ Pralidoxime maintenance infusion: up to 500mg per hour (maximum of 12 grams/day).

RADIATION INJURIES MCI—ADULT & PEDIATRIC**8.4**

Exposure to radioactive source or radioactive material/debris

BASIC/INTERMEDIATE STANDING ORDERS**B/I**

- ▶ Remove the patient from scene and decontaminate by appropriately trained personnel.
- ▶ Triage tools for mass casualty incident
 - ◆ If vomiting starts:
 - ◇ Within 1 hour of exposure, survival is unlikely and patient should be tagged "Expectant."
 - ◇ Less than 4 hours of exposure, patient needs immediate decontamination and evaluation and should be tagged "Immediate."
 - ◇ After 4 hours, reevaluation can be delayed 24 – 72 hours if no other injury is present and patient should be tagged "Delayed."
- ▶ Routine Patient Care.
- ▶ Treat traumatic injuries and underlying medical conditions.
- ▶ Patients with residual contamination risk from wounds, shrapnel, or internal contamination should be wrapped in water repellent dressings to reduce cross contamination.
- ▶ Consider Air Medical Transport after proven definitive decontamination of patient.

PARAMEDIC STANDING ORDERS**P**

- ▶ Consider anti-emetic (see [Nausea/Vomiting Protocol 2.8](#)).
- ▶ Consider pain management (see [Pain Management Protocol 2.12](#)).

2011 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS

GENERIC NAME	COMMON TRADE NAMES
ACETAMINOPHEN	TYLENOL
ACTIVATED CHARCOAL	
ADENOSINE	ADENOCARD
ALBUTEROL	PROVENTIL
AMIODARONE	CORDARONE
ASPIRIN	ACETYLSALICYLIC ACID
ATROPINE	
ATROPINE (AUTOINJECTOR)	ATROPEN, ATROPEN JR.
BUMETANIDE	BUMEX
CALCIUM CHLORIDE	
DEXTROSE	GLUCOSE
DIAZEPAM	VALIUM
DILTIAZEM	CARDIZEM, DILACOR, TIAZAC
DIPHENHYDRAMINE	BENADRYL
DOLASETRON	ANZEMET
DOPAMINE	
EPINEPHRINE	
EPINEPHRINE (AUTOINJECTOR)	EPIPEN, EPIPEN JR
ETOMIDATE	AMIDATE
FENTANYL	SUBLIMAZE
FLUMAZENIL	ROMAZICON
FUROSEMIDE	LASIX
GRANISETRON	KYTRIL
GLUCAGON	
HALOPERIDOL	HALDOL
HEPARIN	
HYDROCORTISONE	SOLU-CORTEF
HYDROXOCOBALAMIN	CYANOKIT
IBUPROFEN	MOTRIN
IPRATROPIUM BROMIDE	ATROVENT
KETOROLAC	TORADOL
LEVALBUTEROL	XOPENEX
LIDOCAINE	
LORAZEPAM	ATIVAN
MAGNESIUM SULFATE	
MARK 1 KITS	
METHYLPREDNISOLONE	SOLUMEDROL
METOCLOPRAMIDE	REGLAN

2011 Approved Provider Medication List continued on next page ➞

The New Hampshire Bureau of EMS has taken extreme caution to ensure all information is accurate and in accordance with professional standards in effect at the time of publication. These protocols MAY NOT BE altered or modified.

2011 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS

↩ 2011 Approved Provider Medication List continued from previous page

GENERIC NAME	COMMON TRADE NAMES
METOPROLOL	LOPRESSOR
MIDAZOLAM	VERSED
MORPHINE	
NALOXONE	NARCAN
NITROGLYCERIN	TRIDIL, NITROBID, NITROSTAT
NITROUS OXIDE PREMIXED WITH OXYGEN	NITRONOX
NOREPINEPHRINE	LEVOPHED
ONDANSETRON	ZOFRAN
OXYTOCIN	PITOCIN
PHENYLEPHRINE	NEO-SYNEPHRINE
PRALIDOXIME	2-PAM, PROTOPAM CHLORIDE
PRALIDOXIME (AUTOINJECTOR)	2-PAM, PROTOPAM CHLORIDE
PROCHLORPERAZINE	COMPazine
PROPARACAINE	ALCAINE
ROCURONIUM	ZEMURON
SODIUM BICARBONATE	
SUCCINYLCHOLINE	ANECTINE
TETRACAINE	
VASOPRESSIN	
VECURONIUM	NORCURON
VERAPAMIL	CALAN

Approved Interfacility Medication

In the interfacility transfer setting where the medication is ordered and initiated in the healthcare facility or the home health care setting (i.e., hospice or home nursing care) prior to transfer, it is within the scope of practice of the paramedic to continue that medication during transfer.

NEW HAMPSHIRE ADVANCED ADULT AIRWAY PROCEDURES BY LICENSURE LEVEL



ADULT AIRWAYS

LEVELS

Supraglottic Airways	Basic*	Intermediate*	Paramedic*
LMA		Intermediate*	Paramedic*
ETT oral			Paramedic
ETT nasal			Paramedic
CPAP		Intermediate*	Paramedic*
RSI			Paramedic [▲]

EMT-Basics and EMT-Intermediates are authorized to use adult advanced airways only for patients in cardiac arrest.

*NH Department of Safety Transition Program required prior to use, unless approved and trained under local option prior to 01/01/06.

[▲]Prerequisite and training required prior to use. (Skill allowed under protocol with waiver and approval from the NH Department of Safety prior to 01/01/06.)

Approved by the New Hampshire Medical Control Board July 20, 2006.

ADULT PATIENT CARE SCOPE OF PRACTICE

Airway Management	1st Responder	EMT-B	EMT-I	EMT-P
BVM	X	X	X	X
Capnography			X	X
Chest Tube Maintenance				PIFT/CCT
Cleared, Opened, Heimlich	X	X	X	X
Supraglottic Airway Devices (e.g., Combitube, King, etc.)		▲	▲	▲
CPAP			▲	▲
Endotracheal Intubation				X
Endotracheal Suctioning				X
Laryngeal Mask Airway			▲	▲
Nasogastric Tube				X
Nasopharyngeal Airway		X	X	X
Nasotracheal Intubation				X
Nebulizer Treatment			▲	X
Needle Decompression				X
Oral Suctioning	X	X	X	X
Oropharyngeal Airway	X	X	X	X
Oxygen Administration	▲	X	X	X
Pulse Oximetry		X	X	X
Rapid Sequence Intubation				Prerequisite
Resuscitation Ventilator Operation				X
Tracheostomy Maintenance		▲	▲	X
Ventilator Operation				PIFT/CCT

X Skills allowed under protocol and taught in the DOT curriculum.

▲ Skill allowed under protocol after completion of a NH Department of Safety approved transition module or enhanced module.

Adult Patient Care Scope of Practice continued on next page ➞

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ADULT PATIENT CARE SCOPE OF PRACTICE *continued*

↩ Adult Patient Care Scope of Practice continued from previous page

Medication Administration Route	1st Responder	EMT-B	EMT-I	EMT-P
Autoinjector		▲	▲	X
Blood Products				PIFT/CCT
Endotracheal				X
Inhalation		MDI▲	▲	X
Intramuscular			▲	X
Intraosseous			Cardiac arrest with commercial IO introduction device▲	X
Intravenous			▲	X
Intravenous Pump			Transfer	X
Oral		X	X	X
Intranasal			X	X
Rectal				X
Subcutaneous			▲	X
Sublingual		Assist▲	▲	X
Transdermal				X
Vascular Access	1st Responder	EMT-B	EMT-I	EMT-P
Blood Draw			X	X
Blood Glucose Analysis		▲	▲	X
Central Line Access				▲
Peripheral Venous Access—external jugular				X
Peripheral Venous Access—extremities			X	X
Intraosseous			Cardiac arrest and shock▲	X
Cardiac Management	1st Responder	EMT-B	EMT-I	EMT-P
Application of 12-lead ECG		▲	▲	X
Application of 3- or 4-lead ECG		▲	▲	X
CPR—Cardiopulmonary Resuscitation	X	X	X	X
Defibrillation—AED	X	X	X	X
Defibrillation—manual			▲	X
Interpretation of 12-lead ECG				X
Interpretation of 3- or 4- lead ECG			V-Fib/V-Tach Asystole, PEA▲	X
Synchronized Cardioversion				X
Transcutaneous Pacing				X

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PEDIATRIC PATIENT CARE SCOPE OF PRACTICE

Airway Management	1st Responder	EMT-B	EMT-I	EMT-P
BVM	X	X	X	X
Capnography				X
Cleared, Opened, Heimlich	X	X	X	X
Endotracheal Intubation				X
Endotracheal Suctioning				X
KING LT-D				X
Laryngeal Mask Airway				X
Nasogastric Tube				X
Nasopharyngeal Airway		X	X	X
Nebulizer Treatment				X
Needle Decompression				X
Oral Suctioning	X	X	X	X
Oropharyngeal Airway	X	X	X	X
Oxygen Administration		X	X	X
Pulse Oximetry		X	X	X
Tracheostomy Maintenance		▲	▲	X
Ventilator Operation				PIFT/CCT▲

X Skills allowed under protocol and taught in the DOT curriculum.

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Pediatric Patient Care Scope of Practice continued on next page ➞

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PEDIATRIC PATIENT CARE SCOPE OF PRACTICE continued

↩ Pediatric Patient Care Scope of Practice continued from previous page

Medication Administration Route	1st Responder	EMT-B	EMT-I	EMT-P
Autoinjector		▲	▲	X
Endotracheal				X
Inhalation		MDI▲	MDI▲	X
Intramuscular				X
Intranasal				X
Intraosseous				X
Intravenous				X
Intravenous Pump				X
Oral		Activated Charcoal Oral Glucose	Activated Charcoal Oral Glucose	X
PiggyBack				X
Rectal		Assist Diastat	Assist Diastat	X
Subcutaneous				X

Vascular Access	1st Responder	EMT-B	EMT-I	EMT-P
Blood Draw				X
Blood Glucose Analysis		▲	▲	X
Central Line Access				▲
Intraosseous				X
Peripheral Venous Access				X
Umbilical Vein Access				X

Cardiac Management	1st Responder	EMT-B	EMT-I	EMT-P
Application of 12-lead ECG		▲	▲	X
Application of 3- or 4-lead ECG		▲	▲	X
CPR—Cardiopulmonary Resuscitation	X	X	X	X
Defibrillation—AED	X	X	X	X
Defibrillation—manual				X
Interpretation of 12-lead ECG				X
Interpretation of 3- or 4-lead ECG				X
Synchronized Cardioversion				X
Transcutaneous Pacing				X

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ADULT & PEDIATRIC PATIENT SCOPE OF PRACTICE

Other Skills	1st Responder	EMT-B	EMT-I	EMT-P
Advanced Spinal Assessment		X	X	X
Burn Care		X	X	X
Cervical Spinal Immobilization	▲	X	X	X
Childbirth	X	X	X	X
Extrication		X	X	X
Eye Irrigation (Morgan lens)				X
Immunization				▲
MAST (pelvic splinting)		X	X	X
Restraints—pharmacological				X
Restraints—Physical		X	X	X
Spinal Immobilization—Lying (Long Board)		X	X	X
Spinal Immobilization—Seated (KED)		X	X	X
Spinal Immobilization—Standing		X	X	X
Splinting	▲	X	X	X
Splinting—Traction		X	X	X
Stroke Scale		X	X	X
Temperature		X	X	X
Vital Signs	▲	X	X	X
Wound Care—Occlusive Dressing		X	X	X
Wound Care—Pressure Bandage	X	X	X	X

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